

The National Locksmith

\$5.00

OUR HOT NEW
INSTA-CODE SOFTWARE
SEE PAGE 127

June 1998

Volume 69, No. 6

ALOA '98

Nashville

Dickson
Your final destination
for the hottest products
in the industry!

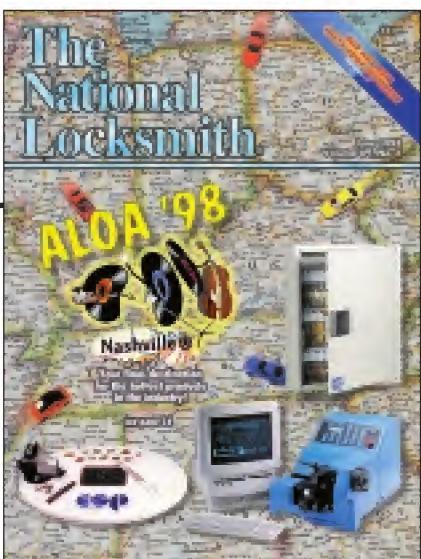
see page 16

ESP

ALA



On The Cover...



The place to be is Nashville, Tennessee for this year's ALOA Security Expo. New products by ESP, HPC and Ilco are sure to be big hits. While you're there take in some Country music and be sure to bring your boots.

Publisher Marc Goldberg

Editor Greg Mango

Art Director Jim Darow

Production Director Edgar Shindelar

Technical Editor Jake Jakubowski

Senior Writers

Michael Hyde, Dale Libby, Dave McOmie, Sara Probasco

Contributing Writers Tony Blass, Joe & Dee Bucha, Carl Cloud, Ron & Chris Curry, Sal Dulcamaro, CML, Steve Gebbia, CML, Giles Kalvelage, Jim Langston, Tom Lynch, Tom Mazzone, Don Shiles, Robert Sieveking

Special Correspondent Bill Reed

Director of Sales & Marketing Jeffrey Adair

Advertising Account Manager Debbie Schertzing

Circulation Manager Tom Dean

Accounting Manager Sheila Campo

Production Assistants Kim Fryer, Dave Krofel

Administrative Assistant Kelly Quinn

Shipping Manager Sean Selby

National Publishing Co.

The National Locksmith® ISSN #0364-3719 is published monthly by the National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. Periodicals postage paid at Bartlett, Illinois 60107 and additional mailing offices USPS 040110. Subscriptions \$41.00 per year in the USA; \$54.00 per year in Canada; \$67.00 in all other countries. Single copies \$5.00 each. Postmaster, please send change of address to National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. ©1998 by the National Publishing Company. All rights reserved. Printed in the U.S.A.



The
Audit
Bureau
Member

Questions or problems with your
subscription? Call (773) 348-6358

For all other inquiries,
call (630) 837-2044, fax: (630) 837-1210,
or E-Mail: natlock@aol.com

See us on the World-Wide Web:
www.TheNationalLocksmith.com

CONTENTS

The National Locksmith June 1998 • Vol. 69, No. 6

FEATURES

14

ALOA Exhibitor Listings
& Booth Map

**COVER
FEATURE!**

16

Showstoppers

34

LeverEx By Securitech

40

Servicing The 1997 Ford
Expedition XLT, Part 2

46

Recycle That Star Door

54

Winfield MicroKey

60

National Security Gun Safe

64

Servicing The 1998
Dodge Ram Van

80

Ford Trunk Opening

88

Software Solutions

92

Pet Peeves Of The
American Locksmith

95

The Bookmark

98

Marks USA

118

The ITL 950

135

Subterranean Data Storage Vaults

138

McGunn Double
Compartment Safe

152

Safe Restoration, Part 6

158

Quick Entry Update -
1998 Oldsmobile Intrigue

161

Modern Safe Locks Tech Bulletin

164

Servicing Interchangeable Cores,
Part 3

174

Value-Added Selling

CODES

180

1998 Subaru Forester, Part 3

DEPARTMENTS

5 COMMENTARY

6 MANGO'S MESSAGE

10 LETTERS

102 BEGINNER'S CORNER

106 TECHNITIPS

114 THE LIGHTER SIDE

116 ROAD RALLY

142 THRU THE KEYHOLE

172 REED REPORT

176 LOCKSMITH CALENDAR

178 BUSINESS BRIEFS

198 TEST DRIVE

**Click on the article
you wish to read**

COMMENTARY



Take a look at our new CD for locksmiths!

Well there are no flies on *The National Locksmith*! That's because we don't hold still long enough for any to land on us!

In April we introduced our new INSTA-CODE software which is selling nicely. And today I have another cool introduction to tell you about. First, though, let me mention that you can now download the fully functional INSTA-CODE demo from our website. Here are simple instructions to do so.

1. Go to www.TheNationalLocksmith.com
2. Navigate your way to the Locksmith section. This is a secure area and you will need a user name and ID. The user name is: national, all lower case. The ID is G5fh84 (this ID is case sensitive, the G is a capital).
3. When in the locksmith area, push the button to go into the product catalog and follow the directions at the top of the screen to download the demo.

Now on to what's new. *The National Locksmith* is introducing our first Locksmith CD which is jam packed with hundreds and hundreds and hundreds of pages of useful locksmith goodies. I hear you saying, OK, Marc, don't tease us... what's on the CD already?

First, we've loaded our entire product catalog on the compact disc, and simply by clicking on the cover of any manual, you can read ten actual pages from each of our over 40 locksmith books. You can even zoom in on the text or photos to see them way up close. So if you've been wanting to see a copy of our new Transponder book, or always wanted to get a good look at our Safe Opening manuals, here's your chance. These sample pages--over 400 of 'em--give you drill points on safes, transponder programming procedures, automotive lock service techniques, and much more.

Second, the entire body of Technitips published in 1997 is loaded on the CD. Again, you can zoom in on any text or illustration you want in order to

get a close look. And here's the best part: The tips are key word searchable so you can instantly find a tip on any subject you wish.

Third, we've placed the INSTA-CODE demo on the CD, so you can easily install it on your computer to try out that program's unique features. The entire manual is also online for you to print out. You'll be printing your own HPC 1200CM™ cards in an instant.

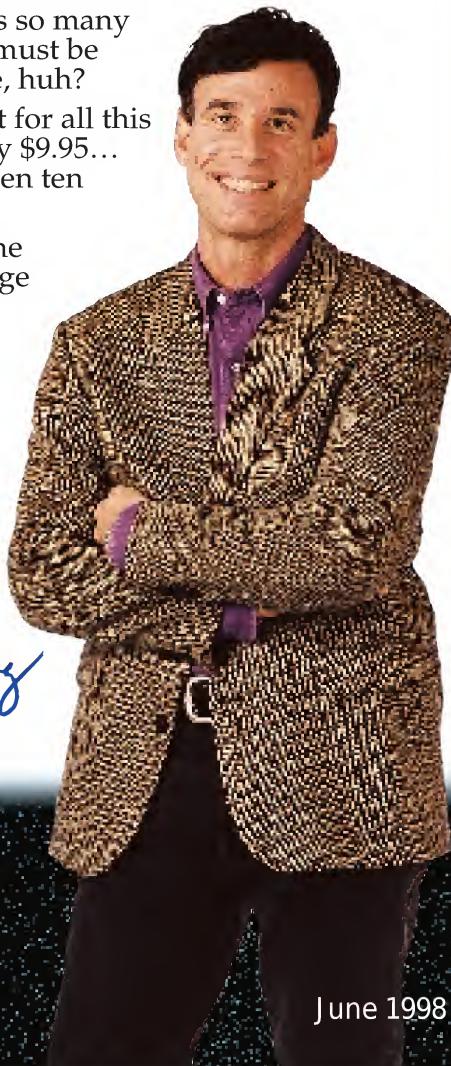
Fourth, as a special collector's item, we've given you twelve issues of *The National Locksmith* from the 1930s and 1940s. Loaded onto the CD from cover to cover, these issues are a fascinating look at where locksmithing has come from. You'll be amazed to read the articles, and even the ads are incredibly interesting to read.

Boy, this CD has so many goodies on it, we must be charging a fortune, huh?

Wrong! The cost for all this information is only \$9.95... that's right, not even ten bucks.

Take a look at the information on page 160.

And remember, show up in Nashville and enjoy the ALOA show!



Marc Goldberg
Publisher

Join our free E-mail list!

Receive locksmith info by E-Mail.
Write us at: NATLLOCK@aol.com

Mango's Message

I thought it was just the coolest toy I had ever seen, and I just had to have it. I was making my usual rounds at the neighborhood dime store to see what new GI Joe action figure accessories there were. As I was perusing the toy isles, there it was. I couldn't believe it. I had seen it advertised on TV and thought it was just the slickest toy on earth. I picked up the box and was soon in a trance of pure admiration. It wasn't often that I just couldn't live without a specific toy, but there was no doubt that some toy maker had designed this one specially for me.

No, this wasn't a GI Joe action figure accessory, it was a plastic pocket knife. This was no ordinary plastic pocket knife, however. It was designed to look like a knife, but on the side of the knife there was a button, and when you pressed the button, like a switchblade, the knife would transform into a toy gun that would shoot caps. I just thought it was the cats meow.

I looked at the price tag and sank my hand deep into my blue jeans pocket, only to retrieve a few fuzz balls. You see, I was about 9 years old and didn't quite qualify for an allowance yet. The only means of financial aid I was receiving at the time was that gained by collecting soda bottles and cashing them in for the return deposit at the local grocery store. Apparently that income had already been spent on a candy bar, soda pop or some chewing gum.

Knowing that it was going to take quite a few bottle returns to purchase this toy, my birthday had passed and Christmas wasn't

any time soon, I had no hope of quenching my desire any time soon. In light of all that and against all odds, I opted for what seemed to be the only alternative... I slipped the toy under my T-shirt and as nonchalantly as a 9 year old can be, headed for the front door. I'm not sure if it was the trail of H₂O I left behind or the fact that my knees were knocking like castanets that gave me away, but I didn't get very far before the long arm of the law — known as the store manager — dropped his hand on my shoulder.

"What you got there son?" he asked.

"Nothing," I replied.



Sticky Fingers

"Nothing! You sure you don't have something under your shirt?" he inquired.

"No." I insisted. Not realizing that the entire outline of the toy could be seen through my tight fitting shirt.

"How about if I just have a look!" The manager demanded, as he lifted up my T-shirt to discover the toy I just couldn't live without.

Never being in this situation before, I thought he would just throw me out of the store and evoke my visitation rights for life, but he didn't. He led me to an office in the back of the store and requested my home phone number so he could contact my parents. Well, that was the last thing I wanted to have happen, so I refused to give him the number. I figured if he didn't have the number, he couldn't call my parents and I wouldn't have to face certain consequences for my actions.

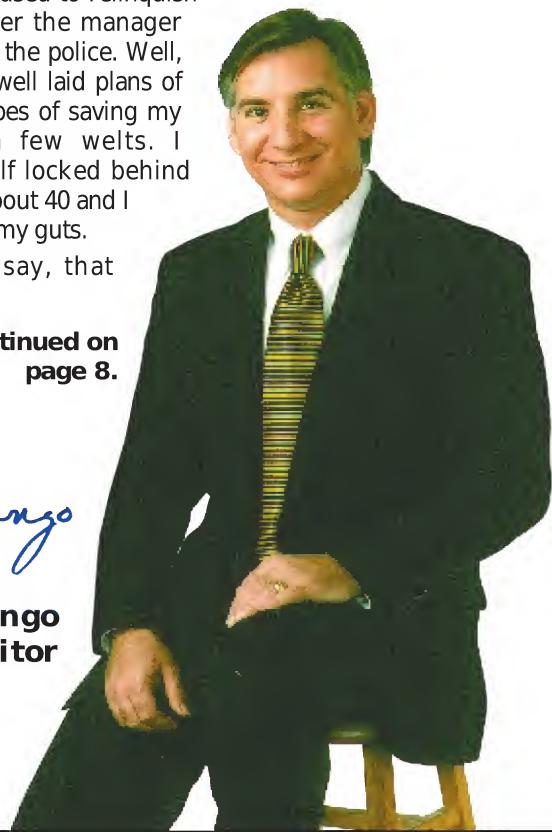
Unfortunately, this store manager was a little older and a little wiser than I. Since I refused to relinquish my phone number the manager threatened to call the police. Well, so much for my well laid plans of silence in the hopes of saving my behind from a few welts. I envisioned myself locked behind bars until I was about 40 and I was soon spilling my guts.

Needless to say, that

Continued on
page 8.

Greg Mango

Greg Mango
Editor



Mango's Message

Continued from page 6

little lesson in life left an impression and cured me of any five finger discount activity I may have entertained. It's not something I am very proud of and the burden of shame has now been carried for more than 30 years, but I learned that if I couldn't afford what my little heart desired, instant gratification wasn't the answer and I simply waited until I could pull more than fuzz balls out of my pocket.

As life went on, I realized that patience is a virtue and everything that I wanted would come in time. I also realized that it wasn't worth serving what I perceived would be a lifetime in the chain gang for stealing a toy plastic pocket knife, or anything else for that matter.

I believe many of us have at least one childhood scar of remorse, and the severity of our action at the time is not always fully understood until the table is turned. I was recently robbed and it left a particularly bad taste in my mouth. It also caused me to flash back 30 years and even though I knew at the time what I did was wrong, the impact my actions had upon others was not known. I was a skinny snot nosed kid without a care in the world, too young to realize that life would not always be that way. With age comes adulthood and with adulthood comes maturity, with maturity comes responsibility and with responsibility comes problems and with problems comes headaches. And so it goes.

I was in Somerset, NJ representing The National Locksmith at the Master Locksmith of New Jersey trade show. My partner in crime was Debbie Schertzing, our Advertising Account Manager. I have attended this trade show many times. It is one of the largest and best run of all the association trade shows and I always enjoy it. All the officers and trade show personnel go to great lengths to host a first rate event. Unfortunately their efforts are overshadowed because of a ring of thieves. Locksmith thieves to make it even worse.

It is never pleasant to be the victim of a crime, however, it is even more disheartening when you learn that the perpetrator of the crime is a brother. There is low. Then there is really low.

Such an individual falls in the latter category. For he who is brazen enough to unconsciously steal from a fellow locksmith, will most certainly steal from a customer. It is this type of individual that the locksmith industry (especially the locksmith industry) can do without.

The trade show was going well. I was in the exhibit booth talking with fellow locksmiths hawking my wares and so was Debbie. As with most shows that we do, the ebb and flow of the visiting participants comes in spurts. One minute we may be a bit slow, the next minute our booth is swamped with potential customers,

or locksmiths who just want to say hi and chew the fat a bit.

We were particularly busy when I happened to turn and notice that two copies of The National Locksmith Guide to Safe Opening, Volume I & II were missing from the table. I was not immediately alarmed by their disappearance because it is common for someone to pick-up a book and flip through the pages while deciding if they are interested enough to make a purchase. Knowing this, I scanned the crowd to see who had the books. Nobody did. I then realized that no one was perusing the pages, but that someone had stolen them.

I turned to Debbie, told her what occurred and we both scavenged the crowd and the isles in search of the books to no avail. Someone just made off with \$220 worth of material. That hurt, but not as much as knowing that a locksmith — I hate to say — took them.

Was this an isolated case? I wish I could say it was, but it wasn't. In fact as I later learned, I fared rather well. Bill Reed had an exhibit booth for Security Resources and had eight books stolen, one being an Autosmart, along with a \$60 Leatherman tool.

Michael Hyde, who you know as a contributing writer for this magazine, was also at the show with a booth representing his company, National Auto Lock Service, Inc., suffered the loss of three BMW High Security Code Books and a set of rocker picks. In fact, several other exhibitors that I talked to had something stolen from their booth as well. It's a sad day when you can't even feel secure in the company of your peers.

I want to stress that these unfortunate occurrences are in no way a reflection on the MLANJ staff or exhibit personnel. They do a great job and don't deserve a black eye. This is not the only trade show in which theft occurs. This year it just happened to be particularly rampant, leaving cause for concern. I would prefer it not be this way, but I believe the time has come when all trade show participants — including exhibitors — have all bags searched when entering or leaving the trade show floor. I include exhibitors because believe it or not, they too, have been known to steal a competitor's technology for further examination. That's a reprehensible story in itself.

If Sam's Club can impose inventory control with a person at the exit doors to check the contents of your shopping cart against your receipt, so can we. Regrettably, the time has come when all trade show events need to tighten the security belt. And to whomever stole our books, I hope you enjoyed them and I can only hope that the knowledge gained will be used to help others rather than hurt. **TNL**



J U N E 1 9 9 8

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

InstaCode is Instant Hit

I just received and installed my InstaCode program. One word will sum it up- "AWESOME." For those who haven't bought it yet GET IT. The code card printout and cut key pictures are great. I am, at present, using a Canon BJC-4000 printer, I'll most likely go to a laser printer, but, the cards print really nice on the BJC. Thanks for a quality program.

Michael Shearer
E-mail

Great Prize

I recently received the Framon Impressioning Tool, Part #IMMS001, as a prize from *The National Locksmith* magazine for a technical tip I sent in. I found the tool easy to use. It gives me a vice like grip on the key bow while still keeping my hand directly centered behind the key.

The tool is very light, therefore, I can leave it on while cutting the key as I usually impression cuts with my code machine.

The tool is high quality and has definitely increased my success rate in impressioning, especially on automotive jobs. I recommend it

highly to locksmiths who have not tried it before.

Shane Maloney
Canada

Subsidizing the Big Boys

Certain manufacturers have chosen to discount their products to unbelievable levels to get large orders from the Home Centers. The recent increase by Schlage was not the usual % across the board increase. The products being sold by the Home Centers were least affected and the products sold by locksmiths were the most affected.

A Series	5%
AL	8%
B100	3%
B600	15%
D.....	6%
F.....	3%
L	5%
Cylinders	5%
Parts.....	3%
Padlocks.....	20%

If the home centers have greatly increased the market and greatly increased the amount of product being sold annually by the manufacturer they deserve a discount. But what if the market has just shifted and the manufacturer's are discounting product they previously sold at a higher margin?

Are the manufacturer's sticking it to us to compensate for the discounts they have given to the Home Center's? Are we subsidizing their big deals? I think we are!

It's time to get angry and to get even! Write letters, call your manufacturer's reps, contact your distributors. We need to yell loud and in unison.

If they won't listen we need to find distributors and manufacturers



who will! Use your buying power to support the distributors and manufacturer's who support you. Don't sell the same products the Home Centers sell. Don't subsidize the bargains they receive from manufacturers. Kathy Zaniolo, CPL Illinois

Are Institutional Locksmiths Affected Too?

I just read with much interest Greg Mango's article on the Illinois Locksmith Law in the April issue. Even though I am a Michigan resident, I try to be aware of the various locksmith laws. I agree that other states may use the Illinois Locksmith Law as a model.

I am an institutional locksmith and as such I, and other institutional locksmiths, would like to know how this law impacts the Illinois Institutional Locksmiths? Are we exempt as long as the work is done "in-house?" Or must we follow the rules governing the rest of the locksmiths? How about the Institutional Safety/Security Departments? How does this law impact them when they perform vehicle openings as a "public service" to guests, faculty, staff and students?

Continued on page 10

The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107
Attn: Editor

Continued from page 10

Please don't overlook those of us institutional locksmiths when reporting on proposed regulations, laws, etc. We are affected too.

*Gaylord Hanson
Michigan*

What Would You Charge?

Just a thought that was brought up today at lunch by another locksmith. He charges more to re-key a Grade 1 lock than to re-key a Grade 2. He charges even more than that for a Kwikset.

He did make a good case for why he does what he does. He said that if you drop the handle of a Grade 1 lock and damage it, you will have to pay more to replace it, therefore, you should charge more to handle it. In most other service work the cost of the item you are servicing dictates the cost charged for servicing it.

I can think of many instances where he is right, but I don't know if it would really apply to our field. It seems kind of high to charge ten dollars to re-key a Kwikset and yet it seems kind of low to charge just ten dollars to re-key a lockset that would cost a couple of hundred dollars to replace. Of course the same logic would be applied to opening cars.

I have found myself wondering why our cost on opening cars is not related to what it would cost our customer if we didn't open it. For instance if we didn't open it and they knocked the window out, wouldn't it cost them much more than thirty five or forty dollars? This would be especially true on a top of the line car.

We don't agree on much here, but we do agree that most professions charge about the same rates. Why then don't locksmiths?

*Rick L.
E-mail*

Pick Gun's & Realtors

On January 13, 1998 I was called to open a door on a home. Upon arrival there was a realtor — whom the customer also had called — at the house with a pick gun and a tension wrench. I asked him where he had acquired the locksmith tools and he said there was a catalog for realtors that a distributor in Dallas, Texas, and somebody else in Houston put out selling these tools. The realtor said he gets these tools for all the people that work for him.

The realtor opened the door but damaged the lock. After opening the

door the key wouldn't operate the lock.

Is it legal for realtors to possess these tools? Is it okay for this distributor to sell these tools to them? What control does the law put on people owning these tools other than locksmiths? There are several locksmith supply houses in Houston, Texas and I see realtors in them all the time buying locks by the cases.

We complain about Home Depots selling locks cheaper than we can buy them at the supply houses. We complain about wrecker drivers opening automobiles for \$25. Locksmiths complained about mail order Slim Jims and the tools companies selling car opening tools. Now realtors can buy pick guns for their employees!

Looks like anybody can go to the locksmith supply houses and buy pick guns and picks if they have money. How do they know if these people are ethical and will only open the houses for the people that live there?

*Bob Stillwater
E-mail*

Alternative Code Solution

I was reading about Buick not giving out codes to locksmiths. This is true, but it can be worked around. What I do is have Buick fax the codes to the local Buick dealer and they gave them to me. Chrysler has the same policy.

I received a call to open a Dodge pick-up one evening and I called Chrysler for a code. They put me on hold and called my shop to verify who I was before they would give me the code. Once they were satisfied, they issued a code.

So if you can't get the code yourself, have the manufacturer fax it to one of their local dealers and get it that way.

P.S. You put out a good bit of information in your magazine. Keep up the good work.

*George Grantham
Texas*

Who Will Stay and Who Will Go

This letter is in reference to the Mango's Message editorial regarding locksmith licensing in Illinois. It has been my opinion for the past 20 years that licensing has less to do with competence in the trade than with restricting new entry into the trade. Such an example is the limited entry

system in California that forces you to buy the license of an existing shop to go into business.

I refuse to belong to ALOA because of their push for licensing. Let the market place determine who stays in the business and who doesn't. In a state with small towns away from urban areas, licensing will put small time people out of business, or they will do it on the side for cash and not pay any taxes on the transaction. Large shops are the winners in this matter, they would be thrilled to put the small operation out of business.

*Bob White
E-Mail*

Turn and Walk Away

I keep reading letters from various locksmiths about Cross-Country, or AAA opening cars and the rates they pay. You know what the answer to this problem is? Don't do the work, or if you do, tell the customer to pay you up front and let the customer send the bill to get their money back.

Again, I just can't understand all the problems I keep hearing about from other locksmiths. What did they do for auto lockouts before AAA and Cross-Country? Now all of a sudden everybody is worried about low rates, or not getting paid. Don't do the work, simple as that.

*Bruce Wellington
Michigan*

Just Beat It

I received a call to service a Buick Skylark because a key had stopped working. The key had been made at some hardware store and it looked like it had been cut with a hacksaw. I decoded the key with my 1200 and cut a new one. It worked in all or the locks with the exception of the ignition. Grrrr.

I had the owner call Buick, (by the way, I got a check from them the other day) so that they could call me back and give me the code. More Grrrr — It was the same key and cuts that I already had.

As the girl from Buick was talking to the owner she told him if the key still doesn't work, rap it with something while it is in the ignition about 20 or 30 times and try it again.

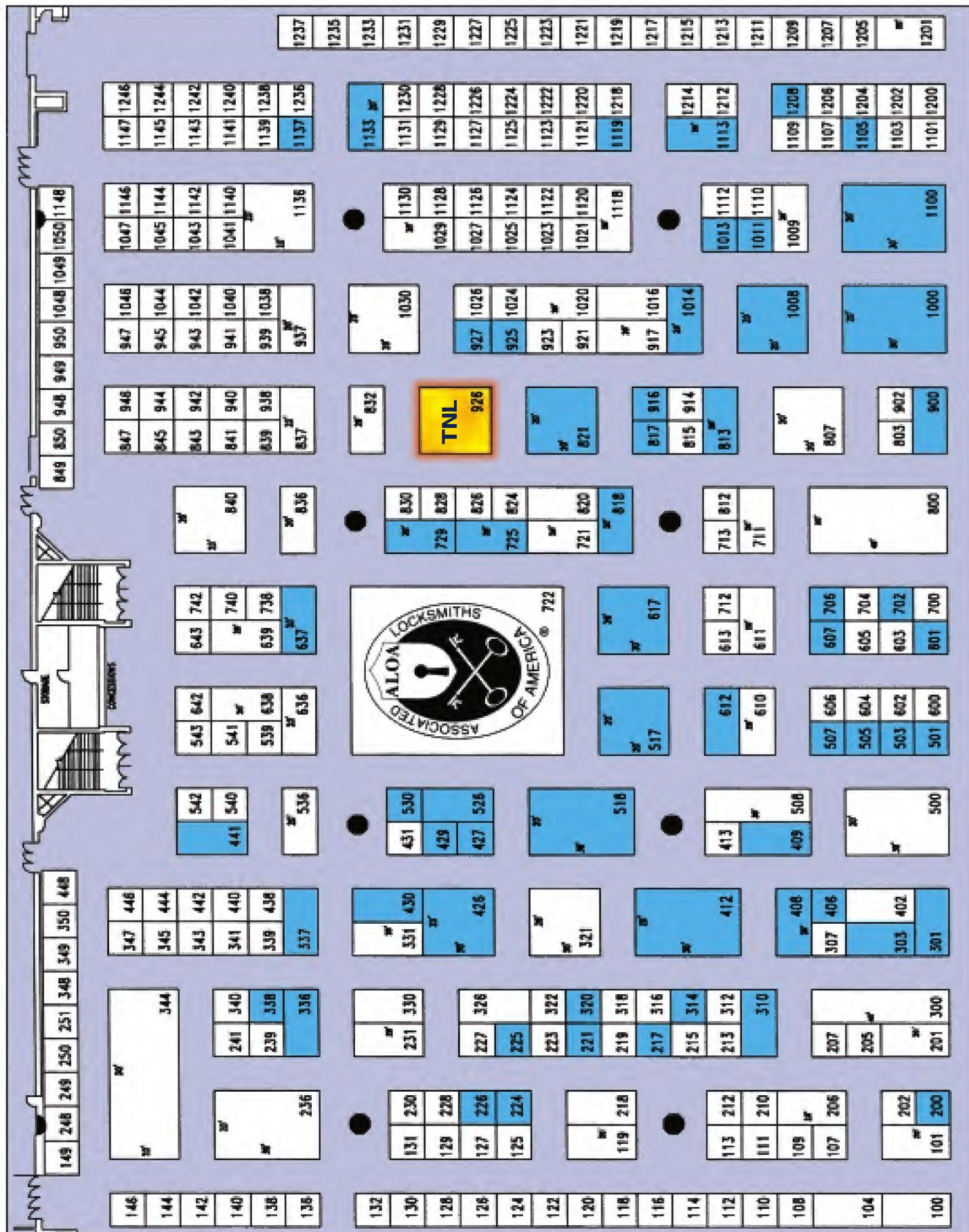
Guess what? It worked! Go figure.

*Burby's Lock
Virginia*

TNL

Nashville Convention Center

Contact ALOA at 1-800-532-2562



ALOA '98 Security Expo Booth Listings

Nashville Convention Center - June 14-20 - Nashville, TN

EXHIBITOR	BOOTH #	EXHIBITOR	BOOTH #	EXHIBITOR	BOOTH #	EXHIBITOR	BOOTH #
A & B Safe Corporation.....0318		Dugmore and Duncan, Inc.....0337		Locknet	0803	Rose Products.....	0438
A-1 Security Mfg Corp.....0409		Emergency Road Service, Inc.....0322		Locknetics Security Eng.	0336	Rutherford Controls Inc.	0607
Aable Locksmiths.....0719		Enhance	1024	Locksmith Publishing Corp.	0321	S. Parker Hardware Mfg.	1026
Abus Lock Company.....0601		ESP Lock Products Inc.	0612	Lori Lock	0813	Safe and Vault Tech Assoc.....	0638
Access Hardware Supply.....0818		Folger Adam Security, Inc.....0413		Lucky Line Products, Inc.....	0902	Sargent & Greenleaf, Inc.	0821
Adams Rite Mfg Company	0345	Ford Motor Company	0344	M.A.G. Engineering & Mfg.	0526	SARGENT Manufacturing Company	0639
Adesco Safe Mfg. Company.....0917		Fort Lock Corporation.....	0713	Markar Products Inc.....	0213	Schlage Lock Company.....	0412
ADI Inc.	1118	Framon Mfg. Company, Inc.	0441	MARKS, U.S.A.	0530	Schwab Corp.....	0517
Adrian Steel Company	0536	Gardall Safe Corporation.....	0326	Marray Enterprises, Inc.	1020	Securitech Group, Inc.	1032
Aero Lock.....0239		Geoffrey Industries	0824	Mas-Hamilton Group.....	0518	Securitron Magnalock Corp.	0310
Aiphone Intercom Systems.....0338		Global Door Controls Inc.	0218	Master Lock Company.....	0611	Security Door Controls	0739
Alarm Lock Systems Inc.....0402		Glynn Johnson	0312	MB Key	0406	Security Lock Distributors.....	0937
Alarm Monitoring Services.....0700		Greater Phila Lksmth Assn.....	0219	MBA	0837	Security Solutions	0704
Allstate Insurance Company	0605	Guardian Personal Security.....	0446	McDonald Dash Locksmith Supp.	1014	Sentry Group	1013
ALOA	0722	H.E.S., Inc	0637	MDS Incorporated	0817	SERLAC	0225
ALOA Legislative Committee.....1023		Handi Disc / Handi Bits.....	1212	Medeco Security Locks.....	0800	Silent Auction.....	0236
American Lock Company.....0721		Harloc Incorporated	0205	Meilink Safe Company	0500	Slydelock Canada.....	0543
American Security Products.....0610		The Hartford.....	0828	Midwest Safe Distributors Inc.	0427	Southern Lock and Supply Co.	0226
American Security Distribution....0206		High Tech Tools	1021	Midwest Wholesale Hardware	1105	Stone & Berg Wholesale	0431
Architectural Control Systems....0227		HPC, Inc.	1008	MIWA Lock USA.....	0212	STRATTEC Security Corp.	0426
ASP Inc.	0430	Hurd Corporation.....	0429	MUL-T-LOCK USA, Inc.	0617	Strong Arm Security, Inc.	0831
ASSA Inc.	1101	IDN Incorporated	0408	National Auto Lock Service.....	0642	Supra Products, Inc.	0923
BiLock North America Inc.....0207		Ilco Unican, Corp.	1000, 1100	National Cabinet Lock	0711	Taymor Industries, Inc.	1130
Blackhawk Products	0925	INTELLIKEY Corp.....	0841	National Security Safe Co	1109	Tech-Train Productions.....	0303
Buddy Products/ Locksmith Div.	0307	ISC Exposition	0221	New England Lock & Hardware....	0921	TESA Access Control	0330
BWD Automotive	0725	J.S.A. International.....	0237	Newman Tonks	0300	The National Locksmith	0926
Byte Brothers.....1122		Jackson Corporation.....	0230	NKL Industries Inc.....	1137	Top Notch Distributors, Inc.	0706
CCL Security Products	0503	Jet Hardware Mfg., Co.	0301	Noble Security Products	0202	Trans Atlantic Co.....	0604
Chicago Lock Company	0507	JLM Wholesale, Inc.	0606	Norton Door Controls.....	1125	Trine Products Company	0613
Cincinnati USA	1110	KABA High Security Locks.....	0830	Nostalgia	0223	Turn 10 Wholesale.....	1136
Clark Security Products.....1009		Keedex Manufacturing	1119	Olympus Lock Inc	0603	U.S. Lock Corp.	0508
Commercial Van Interiors	1113	KEY-BAK/ West Coast		Omaha Wholesale Hardware	0320	United Business Computers Inc ...	0643
Corbin Russwin Arch Hdwr.....1129		Chain Mfg.....	0712	Papaiz USA Ltd	0820	United States Auto Club	0444
Corby Industries Inc.....0602		Knaack Manufacturing Co.	0836	PDQ Manufacturing	0210	USCAN Lock Distribution.....	0636
Crest Electronics Inc	0542	Knight Safe Mfg.....	1011	Perma Vault Safe Corp	0927	Vigilante Burglar Bars	0200
Curtis Industries.....0729		KSP	0916	Perry Blackburne, Inc.	0201	Von Duprin, Inc.....	0314
Defiant Safe Inc.....0231		LAB Security	0900	Prime-Line Products Company....	1107	Weiser Lock Company	0600
DETEX Corporation	1208	Labor Saving Devices	0340	PRO-LOK	0331	Wilson Bohannan Co.	0740
Direct Security Supply, Inc.....0224		L.C. Clark Publishing	0914	R.Q. Associates	1029	Winfield Architectural Lock.....	1133
Don-Jo Manufacturing, Inc.	0826	LCN Closers/ Div of Ingersoll	0316	RA-Lock Co.	1103	Yale Security Group, Inc.	1121
Door Controls International	0702	Liberty Safe & Security.....	0742	Reilor Inc.....	1232	Zipf Lock Company	0505
Doorking, Inc.	0815	Linear Corporation	1016	ROFU International Corp	0501	TNL	
The Dorma Group.....0217		Lockmasters, Inc.	0807				

medeco
HIGH SECURITY LOCKS

Click here for more information

Integrity.
Ingenuity....
security solutions.

COVER
STORY!

SHOW

STOPPERS

ACCESS CONTROL

Aiphone Color Sentry System



BOOTH #338

Aiphone now has a compact video door answering system that sees in color, for home or business security.

The Aiphone Color Sentry System features include: 4 stroke electronic chime, instant-on reception, built-in automatic illuminator LED's, high contrast TFT color monitor, backlit call button, door release, volume, brightness, tint, color and illuminator LED controls. As soon as the chime sounds, the Instant-On feature allows you to immediately hear and see who is at the door before picking up the handset to speak.

Arm-A-Dor® Secure Panic Hardware

Sargent & Greenleaf's Arm-A-Dor® secure panic hardware now has the additional listing of UL 10B for those areas requiring fire listed hardware.



Arm-A-Dor secure panic hardware maintains its original listing of UL 305 for panic exit hardware, and is now recognized as hardware which meets important life safety and security requirements.

All Arm-A-Dor fire exit hardware models are available in either automatic or manual-locking models, with or without alarms, and can be used on double doors without mullions by using a double-door adapter kit. All models can be installed on doors from 36" to 48" wide. Original installation takes about an hour, with retrofits going quickly as well.

Continental Instruments LLC CardAccess® 25

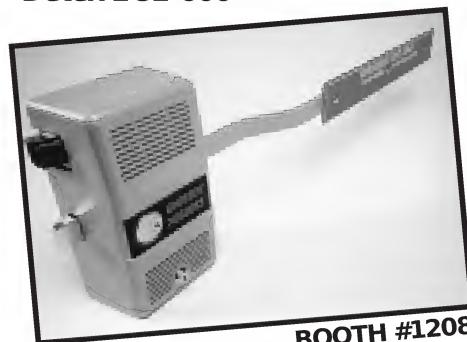
Continental Instruments LLC introduces a single door card access control system that is self contained, simple to install, cost-effective and



requires no hand-held programmer. All programming is performed on a built-in keypad which recognizes intuitively simple commands.

The innovative CardAccess® 25 is compact and convenient to use, yet offers the following big system features: 1,000 card capacity, expansion capability to 3,000 cards, void or validate single cards or groups of cards, choice of magstripe or wiegand card readers, remote door control, door-open-too-long and forced-door alarm, built-in battery back up for system operation and ability to search system database for card status without inserting the card in the reader.

Detex ECL-600



BOOTH #1208

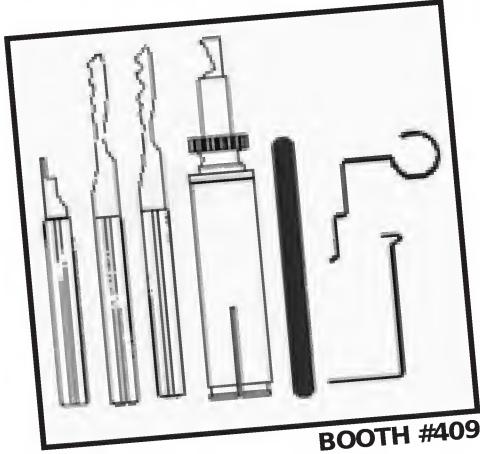
The new ECL-600 "Bratch" exit control lock is engineered to meet stringent building and safety codes as a listed fire exit hardware device. In addition to a time-tested deadbolt, the ECL-600 design includes a latchbolt with a one-inch throw for secure, automatic relatching.

Continued on page 18

Continued from page 16

AUTOMOTIVE ACCESSORIES

A-1 Service Kit



A-1 Security Manufacturing has announced production of a picking and decoding system for new G.M. 10-cut dash ignitions. Ignitions can be picked and decoded in minutes. All parts can be reassembled without need for replacement parts. This tool allows you to service the ignition without dismantling the dash.

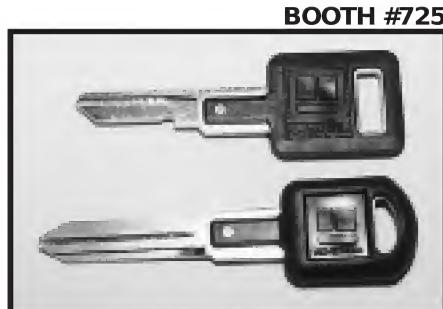
Aable Locksmith GM Ignition Tool



Aable Locksmith has designed a tool to simplify the removal and replacement of the new GM ignition lock design. The tool kit allows locksmiths to remove the steel face cap in seconds. The drill guide tool can then be used to drill an access hole in line with the side bar, without hitting the hard plate or the side bar. The side bar can be raked in, allowing you to turn the cylinder to the on position for fast removal. Then just replace the cap and reinstall the same lock.

BWD Automotive Locks, Keys & Kits

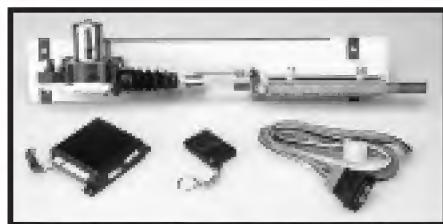
BWD provides the automotive locksmith with O.E., O.E. look-alike and aftermarket automotive locks, keys and service kits. BWD offers a wide selection of original equipment equivalent parts and components for most all GM, Ford, Chrysler, Saturn and many import automobiles. VATS



replacement keys are available in both single and double sided versions.

Cargolock New Security System

Cargolock is an innovative security system designed specifically for commercial vans that carry valuable cargo. Tradesmen have traditionally used padlocks on the doors to keep thieves from stealing their valuable tools and equipment. Cargolock provides a convenient method for securing these vehicles by using remote control deadbolt locks installed inside the rear and side doors of the van.



The system is tailored individually for Chevrolet, Ford or Dodge vans, and is designed for simple, quick and easy installation. Cargolock is available with deluxe remote control features or without remote control as an added feature to existing alarm systems.

High Tech Tools Lockout Set

The High Tech Tools 1998 Model 2600 Lockout set contains 35 tools including: all specialty tools, remote access system, domestic and import car, truck and van lockout manuals with instructions, computer generated diagrams, and step-by-step



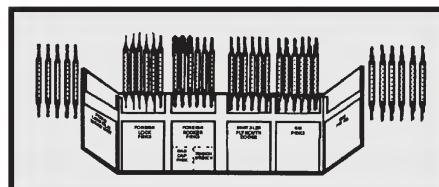
photo instructions. Also included are: an information manual, Auto Lock Service manual, Safe Side Airbag and Door Panel service manuals, Wedge system, Strip Savers™, Probe light, instructional video, and hard molded carrying case.

J ET Transponder Key Duplicator



Locksmiths can now duplicate with confidence most automotive transponder keys with Jet's new EDT-1. Place the original key in the slot, push button #2 and the code is duplicated to the transponder in the blank. The EDT-1 comes with 5 each transponder key blanks to fit Acura, Audi, Cadillac Catera, Honda, Mazda and Volkswagen. A colorful window advertising decal is included.

LTI Tools 37 Piece Pick Set



The Model 620 Grand Master Lock Pick Set from LTI Tools includes 12 GM rocker picks, six foreign rocker lock picks, five Ford rocker lock picks, six Chrysler rocker lock picks, six foreign lock picks, a lock pick tension wrench and gas cap pick tool. The set comes in a custom leatherette case.

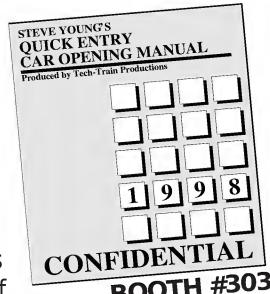
STRATTEC Pass Key Interrogator



The STRATTEC Next Generation Pass Key Interrogator is a pocket size interrogator that can be used on GM vehicles equipped with the PASS Key security system. Cutting duplicate keys or generating new keys when an original is not available is easily and efficiently done with STRATTEC's Next Generation PASS Key Interrogator. It reads the pellet resistor value of the PASS Key blank, and can display the PASS key values on a digital display. The unit also comes equipped with a built-in four minute timer for interrogation purposes.

**Tech-Train Productions
Car Opening Manual**

Tech-Train's 1998 edition of the Steve Young "Quick Entry Car Opening Manual" continues its world famous tradition of providing up to date entry information from the 1980-model autos to the present, including opening procedures for some of the '99 models, such as



the Toyota Solara and Oldsmobile Alero.

CAM & SWITCH LOCKS

BiLock Quick Change Core



BOOTH #207

This new interchangeable core cylinder does not require the conventional figure eight carrier. The mechanism is entirely self contained in the 1/2" core and the same core is used for the complete product line including door cylinders, cabinet locks, padlocks, cam locks, and switch locks.

**Mul-T-Lock 3/4" Diameter
Switch Lock**

After introducing their 3/4" diameter cam lock a year ago, Mul-T-Lock is now even more excited about the introduction of their new 3/4" diameter switch lock.

BOOTH #607



Most common applications are industrial control panels, and electronic information systems. This new switch lock will give answers to all of these security concerns, and at the same time can be incorporated with the rest of the Mul-T-Lock product line.

The switch lock comes with momentary contact and instructions how to convert it to on/off with a 10 AMP maximum.

Olympus DCN/DCR Cam Lock

The new Olympus DCN/DCR Cam Lock combines quality, dependability and style. The ease of rekeyability is due to the patented retaining clip. It is supplied with reversible straight and offset cams and a new hex nut

NATIONAL
AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

www.laserkey.com



BOOTH #603

retaining stabilizer plate. It features a 1" face, making trim rings obsolete.

DOOR HARDWARE

Abloy Disklock Pro Deadbolts

Abloy has now received UL listing for Abloy Disklock Pro deadbolts according to UL437 standard. Abloy Disklock Pro mortise/rim cylinders and key-in-knob cylinders have already been earlier approved according to UL437 standard.



In Canada Abloy Disklock Pro deadbolts have also received fire rating according to CAN4-S104-M 80 (Standard method for fire tests of door assemblies) and CAN/ULC-8533-M 87 (Egress door securing and release devices).

Door Controls International Champion Line



BOOTH #702

Door Controls International introduces its Champion Lever Trim line: heavy duty, UL fire-rated, and designed to lock/unlock the high-security "Pannex" Rim Exit Devices. The vandal resistant lever is available for standard or narrow stile doors, and in electrified versions. The Trim and Pannex Devices are UL Certified for ANSI/BHMA Grade 1.

DORMA New 7900/8900 Surface Closers.

The DORMA Group introduces two new narrow-projection surface closers, the 7900/8900 series, which are well suited for architectural, institutional or commercial applications. The 7900 and 8900 series conform to ANSI A156.4 Grade 1 and are extremely durable. Both offer spring power adjustment, self-adjusting backcheck and optional delayed action.



BOOTH #217

G-U New Security Line



Evolution is not for the animal kingdom alone. The new Security Line is tangible proof that G-U has applied the laws of natural selection to the most advanced window and door hardware in the industry today. The new line features: sleek design, smooth operation, strength and durability. All of the qualities of a new breed of excellence are taken a step further and presented to you by G-U, where technology is not just advanced, it's enhanced.

Guardian Seal Strike Plate

The Guardian Seal Co. has made available The Guardian Seal, which is



a dead-bolt strike plate made of rolled steel guaranteed to stop criminal door kick-ins. This home security device, designed for residential, apartments, motel, commercial and industrial usage has been tested and proves to be 100% effective "kick-in" prevention.

Marks USA "Override Guard"



BOOTH #530

All Marks USA Protector Series mortise locksets feature an "Override Guide" which is designed to result in a spindle failure when torque of over 550 foot lbs. is applied. The lockset remains locked and when the spindle is replaced, the lockset is fully operational.

Protector Series locksets have a lifetime mechanical warranty, meet or exceed all operational and security tests of ANSI A156.13-1994. The Grade 1 locksets are UL listed for a 3 hour fire rating.

MIWA Lock PatioGUARD

Every locksmith should have PatioGUARD locks in their shop and on their truck. This high utility lock is primarily used on sliding glass doors. It allows home owners to key a patio door so it



Continued on page 22

Continued from page 20

can be used as an entrance and exit. Featuring a cylinder on the outside and a thumb turn inside, PatioGUARD is solidly constructed and designed to perfection. The lock is not handed, is easy to install, can be used on sliding and hinged doors, and is available in satin aluminum, duranodic, and white.

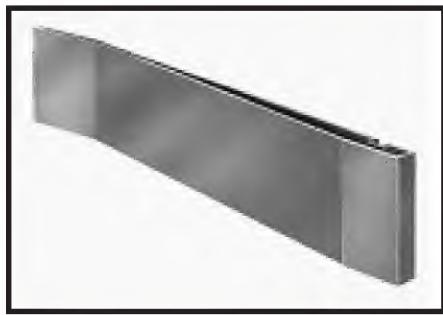
Schlage Vandlgard™



BOOTH #412

The Schlage Vandlgard™ D-Series Keyed Lever disengages under excessive force to protect lock and door components from abuse and vandalism. The Vandlgard design combines a disengaging outside lever with heavy machined steel hubs, precision cut spindles, and cast stainless stops built into the trim and chassis. Schlage offers a five-year mechanical warranty on all Vandlgard functions.

Von Duprin® Extended Vertical Rod & Latch Guard



BOOTH #314

Von Duprin® Vertical Rod and Latch Guards are now available in two extended versions that cover the full width of 3 ft. and 4 ft. doors. The guards are designed to protect the bottom rod of a vertical rod exit device from damaging impact with carts or gurneys passing through the doors. If these rods are damaged, the exit device will not function as intended, which could impair safe exiting in an emergency.

The extended guards are available in rod and latch guard or latch guard only versions, in both 3 ft. and 4 ft. widths.

ELECTRONIC SECURITY

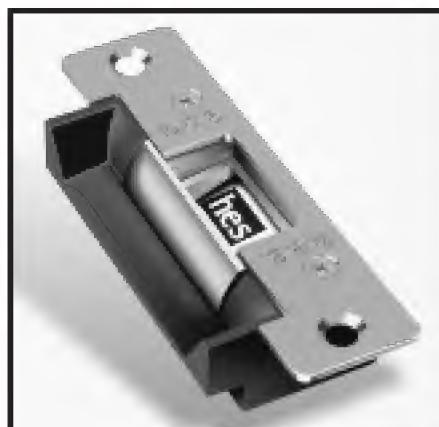
Adams Rite Electric Strikes



BOOTH #345

Adams Rite Manufacturing Co. has introduced two new electric strikes with features that combine the innovations of their electric strikes with a fire rating. Now the one-ton jaw strength, one million cycle tested solenoid and choice of popular voltages can be appreciated in applications requiring a 3-hour fire rating. The 7240 strike is for key in knob latches while the 7270 is for mortise latches. Both strikes are fire-rated in fail-secure mode for hollow steel jambs and are UL Listed for burglary resistance.

**H.E.S. 5000 Series
Electric Strikes**



BOOTH #637

The 5000 series is a revolutionary new concept in electric strikes, designed with only a 1-1/16" backset for low-profile installations, but with the strength of a high security product (2,385 lbs. holding force). In addition this product comes with the installer friendly features you've come to expect from H.E.S.: six interchangeable faceplates and field changeable fail-safe or fail-secure function.

**Locknetics PRO-Line
Electromechanical Locks**



BOOTH #336

Locknetics' PRO-Line Electromechanical Locks offer easy programming of 20 (150 optional) user codes for little more than the cost of mechanical, push-button locks. PRO5100 cylindrical and PRO5500 mortise locks are easily installed, stand-alone designs with clutch-controlled outside levers and extra heavy duty construction. Four AA batteries provide 80,000 activations. PRO5500 includes AutoBolt™ deadbolt. For interior or exterior doors.

Mas-Hamilton® PowerLever™



BOOTH #518

The Mas-Hamilton Group, Inc.® announces the upcoming release of a series of stand alone electronic access control door locks, utilizing Mas-Hamilton's® "no batteries" PowerStar Technology™. This series provides keyless entry and access control, enabling management to audit activity and easily handle user-data, with a Smart Key™.

**NAPCO/Alarm Lock
T2™ Trilogy**



BOOTH #402

The T2 Trilogy from Napco Security Group, is a keyless, self-contained, battery powered access control system whose features include: programmable passage function, one-time emergency access/ service code, individual, group or total user code lockouts, and master and management codes which can set entry allowance from 5 to 20 seconds. New Audit Trail models provide PC or printed logs of whoever entered, when and where.

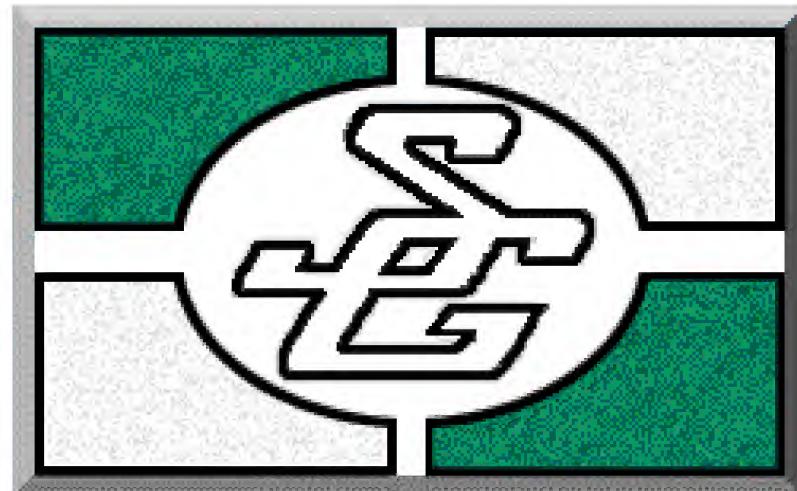
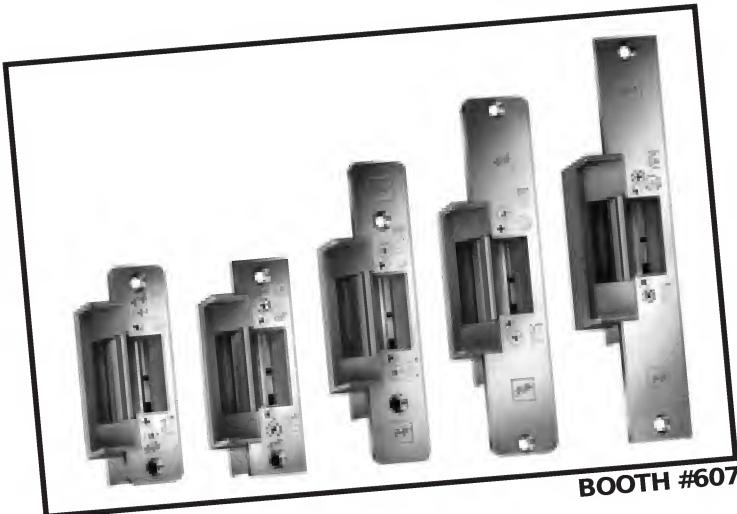
ROFU New Magnet Design

ROFU International Corporation announces a new patented design which takes electric magnetic locks to a new level in **BOOTH #501** performance. Innovation in design eliminates the need for any physical conversion of the magnets wiring for power level match up. The patented feature allows the magnet to accept any DC voltage between 10 VDC and 48 VDC while maintaining a low current draw of only 450mA. Additional design features include zero residual magnetism, installer friendly mounting system, compact magnet dimensions and an operating temperature range from -30F to 1150F.

**Rutherford Controls
Electric Strikes**

Rutherford Controls is proud to take the place among the industry's biggest and best with their complete line of heavy-duty centerline electric strikes. These rugged versatile strikes are available in both Fail Locked and Fail Unlocked versions and meet the highest levels of the new UL1034 Burglary-Resistant performance

ratings for static strength, dynamic strength and cycles. The Fail Locked models are also fire-rated by both UL and Warnock Hersey.



**Choose S&G
Comptronic electronic safe
locks for...security...
technology...tradition.**

[Click here for more information](#)

**Securitron Self Aligning
Shear Lock**



BOOTH #310

Securitron Magnalock Corporation introduces the first electromagnetic shear lock design that does not require special electronics, timers or sensors to assure the position of the armature to lock the door. The Shear Aligning Magnalock® SAM utilizes a patent pending conical button technology to guide the strike plate into the proper position. This innovative design allows the SAM to be re-powered instantly assuring instant relocking without the problem of early strike plate capture causing diminished holding force. The

springy-smooth, ramp-out release action ejects the strike plate assuring instant unlocking without a concern of binding.

**Sargent 4200 Series
Keypad Mortise Lock**



BOOTH #639

For areas requiring authorized entry, the Sargent Keypad Mortise Lock is ideal. It's self contained microprocessor controlled keypad has

a non-volatile solid state memory, insuring that codes will not be lost even if the batteries stop functioning. This mortise lock is a battery operated motor driven lock (4 AA batteries offering 40,000 operations), and is totally programmable via the keypad for all functions. The lock can be programmed as a momentary unlocking device or unlocked and used as a passage unit. The inside lever of the mortise lock is free for egress. In addition the lock is available in 4 functions and 9 architectural finishes, and has an optional remote unlocking feature.

SecuraKey RadioKey® 600



SecuraKey announces the RKAT Audit Trail Module for the Radio



SCHWAB CORP.

Fire protection for your vital records.

Free freight!!

No middle man!!

[Click here for more information](#)

Key® 600 Proximity Access Control Unit, including Free RK-Link™ Windows®95 software.

With a serial printer, the user can print a continuous Audit Trail, a report of the last 150 stored transactions, or a Key Tag programming list. With a PC, the user can produce reports, backup and restore Key Tag programming, and copy Key Tag programming from one Radio Key® 600 unit to another. With the RKAT module, Radio Key® 600 becomes a very cost-effective access control solution for sites with multiple doors where a networked system is not required.

Trine EN Series Electric Strikes



BOOTH #613

Trine's new Infrared EN LB optical sensor automatically confirms positive

latching of a lock set within any Trine EN Series Heavy Duty Electric Strike. It utilizes a non-mechanical Honeywell™ IR sensor featuring a weather resistant heat sink module and is unaffected by ambient light. There are four sensitivity settings allowing adjustment for various latch bolt configurations. The Security Sensor option is available on 10 EN Series Electric Strikes. It permits remote monitoring of a door's secured condition by confirming engagement of the lock set and electric strike. It continually monitors whether a latch bolt has been retracted by transmitting a signal that can be implemented in either an audio or visual notification system.



BOOTH #441

automatically widens cuts, has a customer database where previously cut keys can be stored, and can be easily updated for new depth & space charts.

HPC Drill Mill

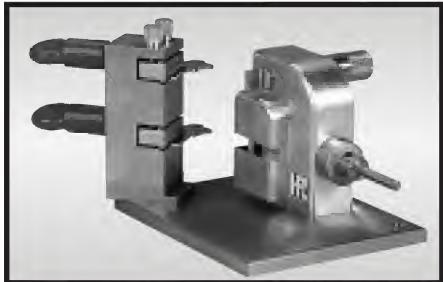
A key machine in every shop. A key machine in every van. Now have a key machine in every tool box. Take a look at the newest member of HPC's extensive line of key machines. The HPC Drill Mill is only 4" tall. It's portable, affordable and quickly



SRI and Tech Train Productions are the automotive specialists - your best source for automotive tools, manuals, and videos.

[Click here for more information](#)

BOOTH #1008



duplicates keys with the power of your drill. Why bring keys to your duplicator, when you can bring your duplicator to the key!

HPC Digital KeKabs®



BOOTH #1008

HPC's new Digital KeKabs® have all the same features of the regular KeKabs®, but are opened by a user friendly keypad, rather than a key.

HPC's Digital KeKab's® intelligent features include 2 levels of access (User and Manager), with an overriding Owner code, instant reprogramming, usage indicator, and automatic lock-out. These units are battery operated and require no wiring or central processors. These locks will typically operate 3 to 4 years on 2 alkaline batteries, depending on usage. A power indicator warns when batteries are low, and special jumper ports allow access of external power in the event of battery failure. With its all metal construction, the HPC Digital KeKab® is built to last.

Hurd Corporation Key Blanks

Hurd Corporation has announced the completion and availability of the original production design P.A.T.S. key blanks for Ford vehicles. This design uses a proprietary molding system and factory original transponders. Using the same high tech rubber compounds Goodyear



BOOTH #429

uses in its racing tires, these durable, factory original keys are available in 8 cut (52-315) to 10 cut (52-303) designs. The word P.A.T.S. is prominently displayed on the molding of the key and a stamping on the blank indicates 8 or 10 cut milling.

Ilco Unican ECM100



BOOTH #1000, 1100

The ECM 100 was designed as an electronic code machine that combines simple operation with reliable, full featured performance. It is capable of operating as an extremely versatile, stand alone unit, or it can be connected to a PC to operate with the current generation of the Reed Code Software. Whether your code cutting requirements include automotive keys, commercial keys or both, the many unique features of the ECM 100 may well make it the last and only code machine you will ever need.

**Jet Transponder
Auto Key Blanks**

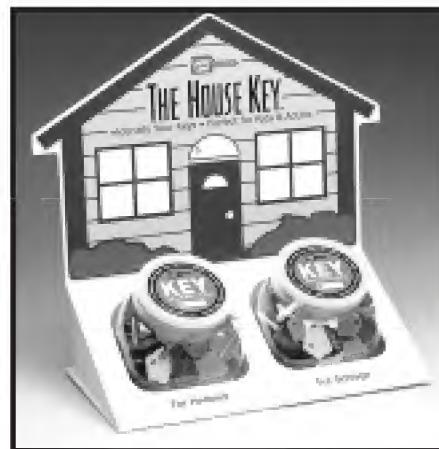


BOOTH #301

Ten new transponder key blanks are now available from Jet Distributors. A letter "N" has been added after certain transponder

regular stock numbers. This letter indicates that the transponder is neutral (not coded).

Lucky-Line House Key Display

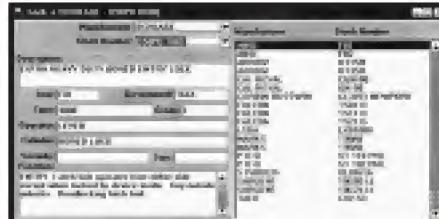


BOOTH #902

Lucky Line Products announces their latest innovation- The House Key. The house-shaped head is molded directly over the key blank. Available in two models: No. 151 Schlage (SC-1) and No. 152 Kwikset (KW-1), 80/jar. Order two jars and the sturdy colorful display is free.

MISCELLANEOUS

**Dalax - Lock Hardware
Cross Reference**



Dalax, has released their latest computerized version (2.0) of the Lock Hardware Cross Reference. This release includes 88 manufacturers with over 119,000 line items. It includes all types of locks, keys, keyways, interchangeable core products, panic exit devices, hinges, etc. The key blank cross reference is based on original lock manufacturers' numbering and compared to the after market manufacturers.

The operating system is Windows® 3.1, 95 and NT. It will operate on multiple machines when properly configured by a Network Administrator.

Door Armor-Doorknob

Door Armor is a highly effective product that protects doorknobs and deadbolts from vandalism, wrenching, prybars and hammer attacks.

Continued on page 28

Continued from page 26



Fabricated from heavy 14 Ga. steel, heliarc welded and finished with electrostatically applied powder paint. Fasteners and mounting instructions are included.

ESP Mobile Pinning Station



BOOTH #612

Take this mobile pinning station along with you wherever you go. ESP's Mobile pinning station includes a durable Corian base with 11 EZ access holes for holding pins. A foam pad and a mini locksmith vice mounted to the base make for a solid working surface for all those locksmith needs. Forget cookie trays. Using professional tools will make your work go quickly and be more profitable.

ESP is on the move with tools and equipment designed just for the professional locksmith.

Gil-Ray Tools Cutter Wheel

Gil-Ray Tools has designed a new wheel to replace the standard quality cutters for Silca Bravo key duplicating



machines. The new GRP-80M C cutters are made of CPM ® M 4 High Speed Steel, and feature a stronger tooth design with precision ground teeth for longer service and more accurate key duplicating. CPM ® M 4 HSS is known to last longer, between sharpening, than standard quality cutters.

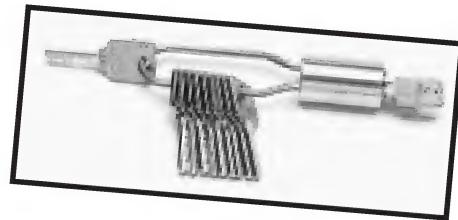
These wheels will fit all machines that currently use the CW80M C-80x5x16 mm cutters. They are direct replacements.

Lindustries Leveron



School locksmiths report Leveron's design dramatically cuts costs by making existing doorknobs A.D.A. lever compliant in older school facilities. Leveron's one size eliminates the extra work needed for multiple size ordering and stocking. It's state of the art construction handles the toughest abuse even in the big city environments.

Monarch Key-Kop™



The Monarch Key-Kop™ is a tamper evident locking key ring ideal for keeping keys from "wandering" off. Durable construction far surpasses similar units. A recessed lock in a solid aluminum body, available with stainless shackles in various lengths, or with a flexible, coated cable, shrouded by a stainless steel sheath.

STI Exit Stopper®



An entirely new version of the STI Exit Stopper® that solves the problem

of unauthorized exits and entries of fire doors is being offered by Safety Technology International, Inc.

Exit Stopper can be used as both an exit alarm to detect persons leaving through fire exits and now also as an enunciator to let you know someone has entered through the protected door. Further, you can easily select which of those two functions to use, the time length to trip delay and the type and length of warning siren or enunciator beeping.

In all, there are 16 different combinations that can be set by the user.

PADLOCKS AND SPECIALTY LOCKS

Abloy Boron Shackles



Abloy padlock shackles are made of hardened boron steel, a tough and durable material which provides superior resistance to impact, pulling, sawing and cutting. Metal gets harder when sawed or drilled. Abloy's range of general purpose and maximum security padlocks are designed to meet extremely demanding conditions and conform to the draft CEN standard for padlocks.

ABUS DISKUS®



BOOTH #601

"Urban tough", the Diskus® is now available in a rekeyable version - #24RK / 70. All stainless steel lock body and inner mechanism make the Diskus® the "go to" padlock when real maximum security and resistance to environmental harshness is required. Tested for over 6,000 lbs. of pulling force, the special patented design of the new Rekeyable Diskus® is almost impervious to attacks by boltcutters, hack saws, pry bars and hammers. The shackle is chrome hardened moly steel (tougher than the boron steel version) and double dead locked to provide additional strength. The lock body is 2.2 mm thick unlike the cheaper imitations that average 1.5 mm thick. Easy 3 second cylinder removal and 5 pin tumbler rekeyable cylinder.

American Lock® Shackleless Steel Model 2010



American Lock Company Model 2010 is a shackleless round padlock machined from bars of solid steel.

The case hardened, solid steel construction provides maximum protection against drilling and sawing, while its locking bolt design resists crowbar attacks and prying. This 2 3/4" round padlock also features an American Lock pick resistant 6 pin tumbler for added security.

NuSet Padlocks

NuSet has everything the Locksmith needs for a successful business at factory direct prices.

NuSet is featuring the "Re-keyable Heavy Duty Padlock" #5930, at the lowest price available on the market. The chrome plated, 5 pin tumbler keyway, is available with 2" and 2 1/2" hardened shackles.

SAFES AND SAFE PRODUCTS

A&B Safes

A&B Safe Corporation's line of rotary hopper depository safes are available in three models: AB-3, AB-1R, AB-4. These safes are available

STRATTEC™

The world's largest
producer of automotive
locks and keys.

[Click here for more information](#)



BOOTH #318

constructed with exclusive, patented dovetail boltwork. Locking devices include: dual key locks, combination locks or Mas-Hamilton, LaGard or Ilco electronic locks.

Adesco Burglar Fire Safes

Adesco introduces new lower



BOOTH #917

pricing on our popular line Burglar Fire safes. These safes are packed with features like: 2 hour fire label, glass relock plate, massive 1 1/4 inch locking bolts, tri-spoke handle, two tone paint, and much more.

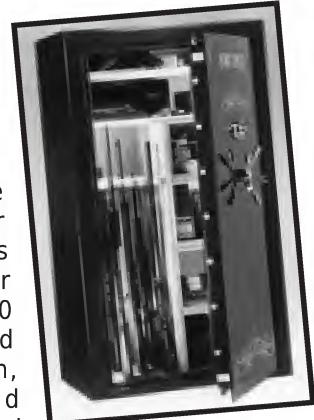
**DiMark International-
Mitey Tites**

Looking for good quality security and cash boxes? In addition to the time-tested Mitey-Tites with the Lock-Down Plates from Germany, DiMark International offers a wide variety of cash boxes. The newest lines are "Business" and "Office" and are exceptionally good looking and offer much better security than those sold in stationary stores.



**Fort Knox
UL Safes**

Fort Knox offers a full line of UL listed safes including twenty-one models for Guns, Residents & Business. Our minimum, 1200 degree certified fire protection, unequalled warranty and state of the art Locking Mechanism makes Fort Knox, Truly America's Best.



Perma-Vault Depository



BOOTH #927

The Perma-Vault Through-The-Door or Wall-Depository (Cash Protection System Model PRO-902M) makes an affordable, safe and convenient depository for interim

**ASP - Your Auto Service
Center for the World**

[Click here for more information](#)

storage of cash, checks, receipts, or as a "key drop".

With the adjustable chute that is available, the unit can be installed through internal and external walls, as well as through a door. The unit measures 10" W x 8" D x 14-1/2" H.

Rol-A-Lift



The Rol-A-Lift is specifically designed to handle large bulky loads as well as fragile equipment. These units come in seven sizes from 2,000-12,000 lbs. and can handle items such as computers, switchgear, electrical panels, safes, heavy machinery and other sensitive and costly equipment.

RQ Associates Long Borescope

The RQ Model 460 long borescope has forward D.O.V. of 45 degrees and incorporates a 6.35mm mirror sleeve with a right angle 90 degree F.O.V. which can be used for side access safe work. The unit, which measures 5mm x 18 1/4 in., features a focusing eyepiece with true, non-reversed image and uses a lens train system for better quality. The mirror tube uses a second surface mirror and snaps on the borescope with the use of "O" rings so it will not fall off when rotating 360 degrees. RQ will also have available shortly a 5.5mm x 22 1/2 borescope with a dedicated 90 degree D.O.V. and a 45 degree F.O.V.

Schwab Fire Safes

For 125 years, Schwab has helped protect businesses against the devastating effects of fire. Now Schwab has combined

BOOTH #517



their Class 350- 1 hour fire protection unit with U.L. classified theft protection. With 16 TL-15 and TL-30 models to choose from, Schwab offers quality fire and theft protection composite safes to meet any storage need. One great solution.

Victor Firemaster Media Safe

This Victor Firemaster® Media Safe sets a new



BOOTH #1136

standard for convenient storage and fire protection of magnetic files.

Underwriter Laboratory has classified this safe as 125- one hour. Advanced insulated materials allow a compact, portable, low cost media safe that offers each person their own free-standing, mobile file next to or under the desk with personal computer.



***We have it all.
Quality, Value,
& Service.***

[Click here for more information](#)

TOOLS AND ACCESSORIES

ESP Cam Lock Display Board



BOOTH #612

ESP's Cam Lock Display Board highlights the most popular cam locks and disc tumblers in one simple spot. Designed as an in-store display, yet portable enough to carry on the road, the board shows cam locks, plunger locks, metal and wood drawer locks and utility tool box locks as well as cams, clips, nuts, rings and washers in one convenient location.

Jensen Tools-PEI's Security & Alarm Loop Verifier



The PEI Security & Alarm Loop Verifier outputs standard tone for wire tracing and identification. Checks continuity with audible signal. Has the ability to latch a switch condition change, whether normally open or normally closed. The speaker will resound until reset if switch under test changes state. Magnetic backing is included.

Keedex Spin Out

The Spin Out by Keedex, Inc. removes even the most stubborn cam screws from mortise cylinders. The Spin Out features a screwdriver with



BOOTH #1119

an oversized handle for extra torque. Includes four sizes of interchangeable screwdriver bits- two slotted and two Phillips.

Lockmasters Magnum Bullet Drill Rig



BOOTH #807

The Bullet is a heavy duty "companion" drill rig with the same powerful drill capacity as the standard 457 Magnum. Designed with new barrel and quill assembly technology, the Bullet is lightweight, quick and easy to set up, and offers template drilling. The template provided with the Bullet includes drill points for the fence, lever screw, relocker and scope for S&G, Ilco and LaGard locks. Other templates are available for the Master, Hamilton X-07, Mosler and Star Round Doors. An additional blank template is available with the spindle hole and mounting holes predrilled. For side

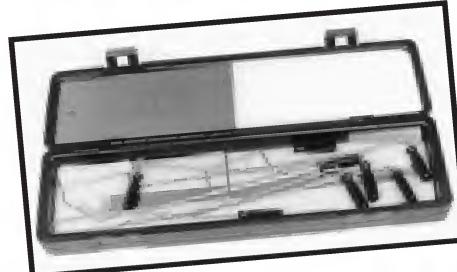
drilling or drilling outside the dial ring, a guide plate complete with drill bushings is provided to accurately drill the two mounting pattern holes anywhere on the safe. The Bullet accepts the barrel assembly from the 357 Magnum, 457 Magnum, or the New 457 Magnum.

Major Manufacturing



Major Manufacturing has announced the availability of the HIT-44 Drill Master installation jig in kit form. Part numbers for the two kits are HIT-444 standard and HIT-445 deluxe. The HIT-444 contains the Drill Master plus a 2-1/2" multi-spur, 1" brad point bit, quick release adapter, 3 in 1 latch marking tool, 1-1/8" x 2-3/4" strike marking tool and a 1" strike locator. In addition to the above, the HIT-445 kit has a 1-1/2" multi-spur, 7/8" brad point bit, full lip strike marker and 7/8" strike locator. Tools for the HIT-44 kits, such as the latch and strike markers are machined from steel and feature replaceable blades. All tools are also available as separate items from your distributor.

Steck #32800 Lockout Tools Kit



The Steck Lockout Tools Kit is now available in a Heavy Duty Plastic Storage Case that stores all eleven tools plus a Knee Saver Pad (fits in the lid) for those occasions when you must kneel on hard, rough or wet ground to work. A 32 page instruction book is included giving specific instructions on over 100 makes and models. **TNL**

LeverEx

by Securitech

by James Marshall

Exterior trim for exit devices has caused many a headache for institutional locksmiths. I have often installed a reasonably well made outside handle, only to find it bent, bruised, broken, or forced open. Now, I can live with bruised. Show me a piece of hardware in an inner city high school that looks good as new, and I'll show you one the kids haven't noticed yet. Bent is a fact of life, and broken is on my to do list for next month. What kind of hardware wouldn't suffer during an after-hours fight with a pipe? Forced open, however, is unacceptable.

There is ample evidence all around of hardware designed without a 17 year old, 200 pound, criminal gang member in mind. Many are students (or at least they come here during daylight hours), others come out of the wood work when school employees are not present. A closed school seems to attract them like a magnet. The evidence is found on Monday mornings, and after holiday shutdowns.

Enter the Securitech LeverEx series. The LeverEx is a rugged exterior lever for rim exit devices. The unit I installed is a model 111A, intended to replace the rim cylinder with an ADA compliant cylinder and lever combination. In this series, the designer changed the way the lever is secured. Instead of making the lever (or knob, or T-turn, etc.) rigid when locked, the other side of a clutch mechanism is rigid when

locked. When the lever is forced, the clutch will slip, allowing the lever to move without harming components. Most importantly though, the tail piece does not move and the door remains locked.

One good test was to install the device in a location with high vandalism and low visibility from the street. The chosen site is in an area which experienced riots a few years ago, and endures frequent vandalism. The vandalism of locks at this site alone includes multiple calls each week (sometimes more than one per day) for such items as prying doors open, wrenching knobs, and gluing or otherwise plugging cylinders.

This site of the building is adjacent to a high school football field, but mostly shielded from the neighborhood by grandstands. The door chosen leads to a restroom and locker room used during school and

for after school athletic events. It is both set back into the building wall, and shielded by a privacy wall. (See photograph 1.)

This is the gang tagging that occurs within hours of painting a door or wall. (See photograph 2.) Those of you who work for either school districts or institutions for the criminally insane know what causes only the lower hinges to corrode like this. (See photograph 3.) Perfect location, now for the test installation.

The existing hardware was a Precision single point panic hardware, attached with sex bolts, no outside trim. (See photograph 4.) Each door latches against a mullion (center post), which explains why the latch is set back from the edge of the door.

For the marks and measurements of the installation holes I used the template provided, but used the

1. The door chosen to install the LeverEx was next to a high school football field.





2. This is the gang tagging that occurs within hours of painting a door or wall.



3. Those of you who work for school districts or institutions for the criminally insane know what causes only the lower hinges to corrode like this.



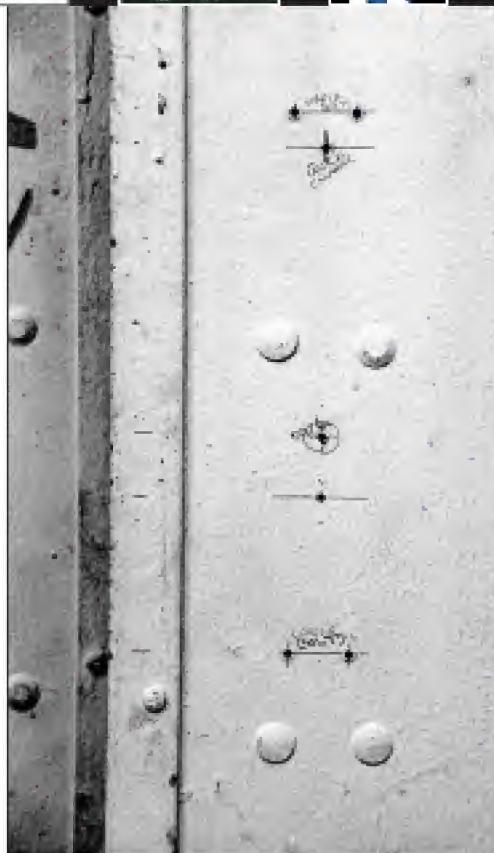
4. The existing hardware was a Precision single point panic hardware.



The Innovation You Expect, with the Flexibility You Need!

[Click here for more information](#)

5. For the marks and measurements of the installation holes I used the template provided.



6. Two of the sex bolts holding the exit device to the door prevented the trim from lying flat and had to be countersunk.



7. When we through-bolt I use a flat or oval head machine screws with a finish cup and a standard flat washer for support.



edge of the door and prevents simple measurements on the outside from the edge of the door.

Two of the sex bolts holding the exit device to the door prevented the trim from lying flat against the door, and had to be countersunk. (See photograph 6.) Those large overlapping 1/2" deep holes are needed for clearance of some moving parts around the LeverEx tail piece. The two holes at the top and the two at bottom are for mounting bolts. The center hole near the top is for the handy quick change feature. The quick change feature is accomplished with a shaft from the interior of the door threaded into the same plate the mortise cylinder is screwed into. More on this feature later.



8. There is a cylinder protector with two spring clips on the collar which snap into the cylinder cover.

The next part of the installation should have been straight forward, but was a little confusing due to the

tailpiece of the existing lock location as the point of reference instead of the door edge. (See photograph 5.) This would have been done even without a mullion, as the door also has a full length astragal (protruding metal edge). The astragal extends past the

type of hardware included, and the overly brief instructions. It should not be difficult to drill six holes and tighten four screws. The first problem was realizing that even though nothing on the package or paperwork indicated it, the instructions and hardware package was intended for a hollow steel door, not a wooden door.

Once this dawned on me, I drilled the holes out as needed, placed the LeverEx in the door and inserted the screws. I substituted two 12-23 machine screws for the custom shoulder bolts supplied for use in the bottom two mounting holes. When we through-bolt an item to a door, it is standard practice here to use flat or oval head machine screws with a finish cup and a standard flat washer for support. (See photograph 7.)

There is a cylinder protector with two spring clips on the collar which snap into the cylinder cover, providing anti-wrench protection. (See photograph 8.)

Screw the mortise cylinder into the LeverEx, loosening the quick change shaft if necessary using an allen wrench. (See photograph 9.) Test the operation of key and lever, then

tighten the shaft that holds the cylinder in place. Remove the sex nuts and replace them by adding a plate to cover the quick change shaft, and reinstall exit device. (See photograph 10). You may want to test operation of the complete installation before tightening sex nuts.

Unfortunately, my installation did not work. Once you turned the key and lever, the latch would retract, thus allowing the door to open. After the lever returned to its proper position and the key was removed, the latch was still retracted. I began investigating what was in my experience, the most probable

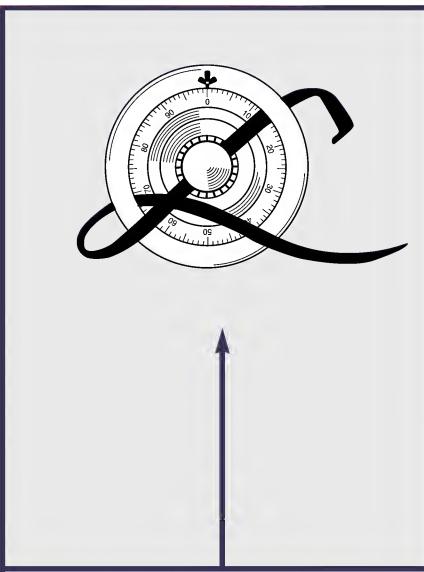


9. Screw the mortise cylinder into the LeverEx, loosening the quick change shaft if necessary.

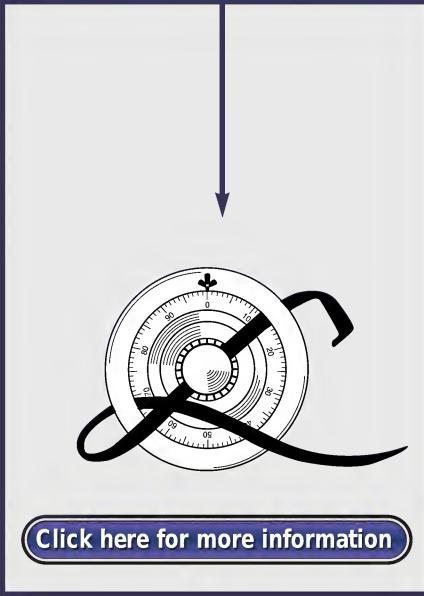


HPC, Inc.
Designing Excellence and Manufacturing
Quality since 1956

[Click here for more information](#)



Lockmasters
has a
44 year
history of
training
security
professionals.



[Click here for more information](#)



**10. Remove
the sex nuts
and replace
them by
adding a plate
to cover the
quick change
shaft.**

cause: misalignment. After quite some time was spent, I realized that while alignment is critical with the LeverEx, this one was aligned properly. The problem was that the exit device was intended for a standard rim cylinder, and the standard LeverEx has a "lazy" tailpiece. A lazy tailpiece will not force the exit devices cam to return to the locked position, as a standard rim cylinder would.

One phone call to Securitech solved the problem. After explaining the situation, they sent me a replacement with a rigid tailpiece. I agreed to remove all the graffiti I could and return the old one. The new rigid tailpiece model now installed works great. (See photograph 11.)

The original unit was installed before the Christmas vacation, and remained undamaged, except for being tagged with graffiti. It held up perfectly to my pre-vacation torture tests. I don't have the heart to do it myself, so I am waiting to see the results of the inevitable student pry bar attacks. The external lever stop is one of the heaviest I have ever seen, but should be threaded and attached with screws from the inside instead of screwed on from the outside.

About the quick change feature: tightening the post with an allen wrench puts pressure on the plate, preventing the cylinder from unscrewing. Loosening the post allows removal of the cylinder. I love this feature, as it allows for re-keying without removing the exit device or trim. Having to remove all the exit devices has always been a time consuming part of re-keying a school.

Precision single point exit devices do not use a spring for returning the

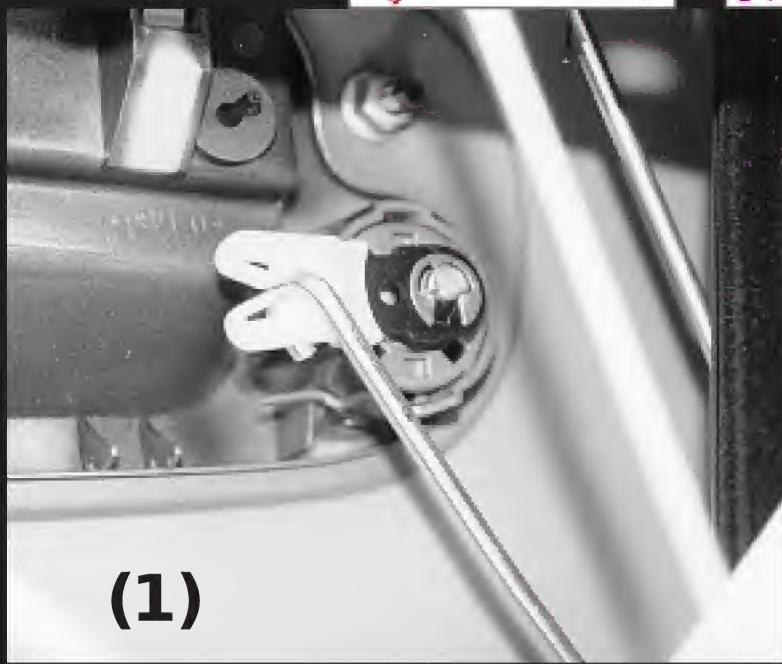
**11. The
new rigid
tailpiece
model
now
installed
works
great.**



cam back to the locked position, they depend on the cylinder tail piece. Even if you are using an exit device with a spring loaded cam, I only recommend ordering the LeverEx model with a rigid tail piece (you must always specify the hand of the door when ordering). Even in those devices with cam springs, this will help prevent lock failure when that spring becomes weak or broken.

Overall this is a rugged item that definitely fills a void in exit hardware trim. It should prove profitable when your clients are mandated to convert a key retract rim exit device to an ADA compliant lever, especially in vandalism prone areas.

For more information on the LeverEx, contact:
Securitech Group, Inc.
54-45 44th Street
Maspeth, NY 11378
Phone: (718) 392-9000 or 800-622-Lock
Fax: (718) 392-8944



(1)

There is plenty of room to access the lock cylinder. Unsnap the wire clip far enough to remove the lock cylinder.



The door lock cylinder is pictured.

This month we conclude
our two part series
servicing the transponder
equipped Expedition.

Servicing the 1997

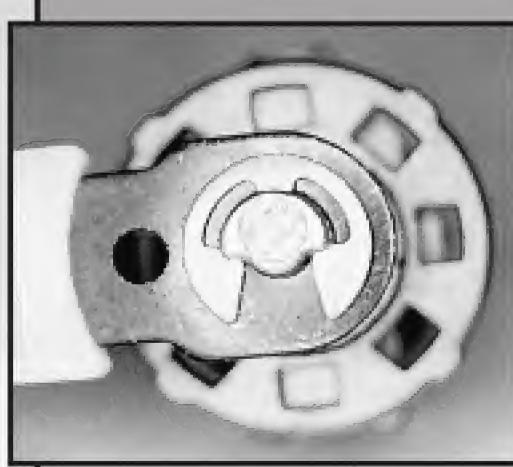
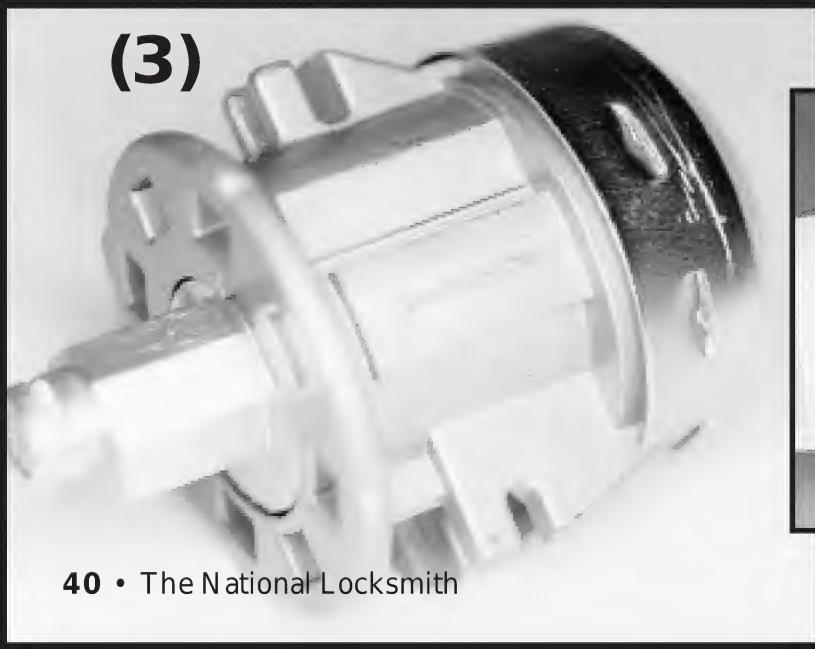


(Part 2)

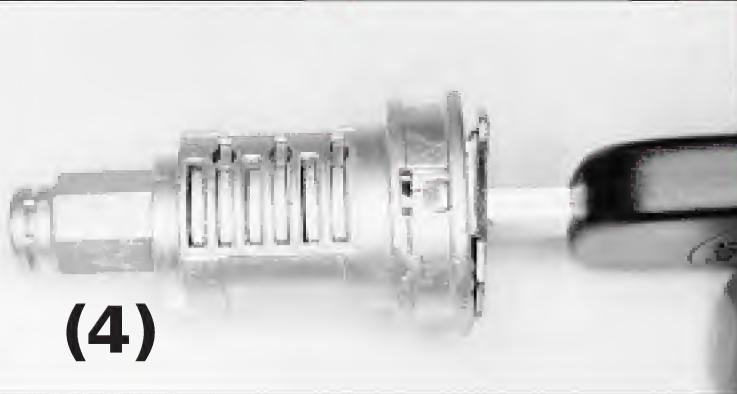


by
Michael Hyde

Expedition
XLT

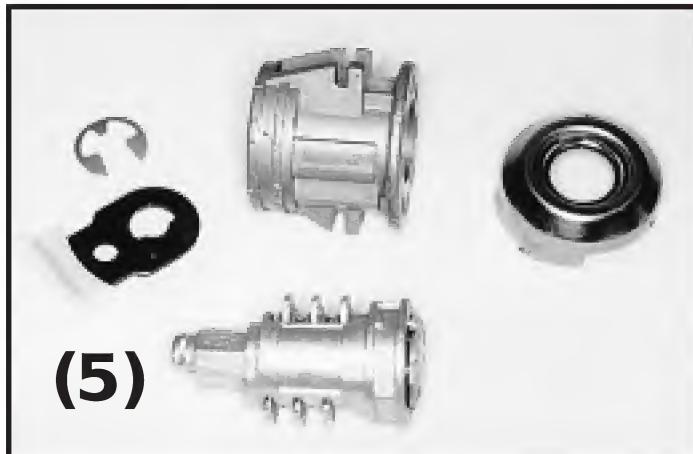


To
disassemble
the door lock
cylinder you
will need to
remove the
tailpiece and
unsnap the
face cap. The
face cap is
reusable.



(4)

The door lock cylinder contains six tumblers in positions 1 through 6. To remove or insert a tumbler it will be necessary to rock the tumbler back and forth. The door lock cylinder housing has a detent in it.



(5)

The door lock disassembled is pictured. Strattec replacement part number for a door lock service package is 703362. Replacement face-cap part number from Strattec is 322257. The tumblers for the door can be found in the Strattec Ford 8-cut Pinning Kit 703373.

TRUNK OPENING:



(6)

The rear hatch lock is located in the middle of the hatch and controls the locking & unlocking of the window glass and hatch.

Major
MANUFACTURING, INC.

Installation Tools

**The
Professionals
Choice**

[Click here for more information](#)



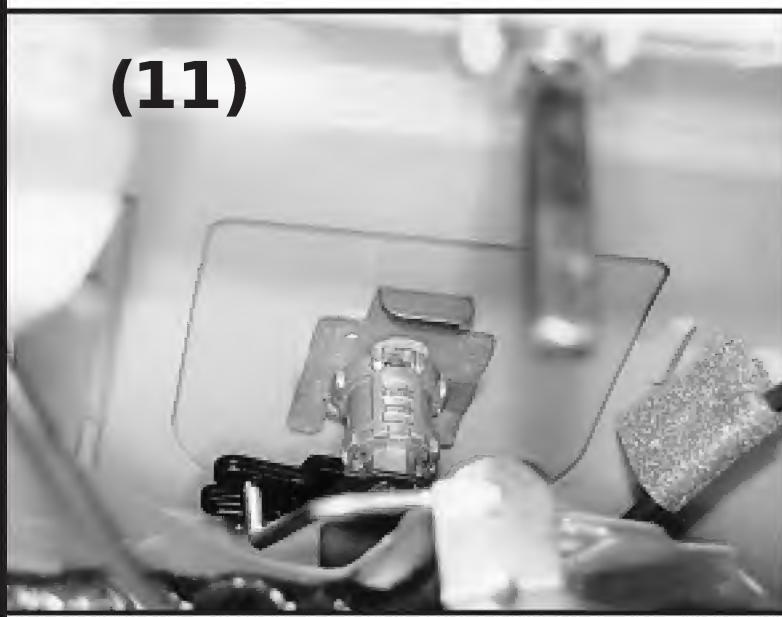
(7)

To service the lock cylinder it will be necessary to remove the rather large trim panel.



(9)

The fasteners used on the rear hatch are different than the ones used on the doors. The rear hatch uses the standard push-in style panel fasteners.

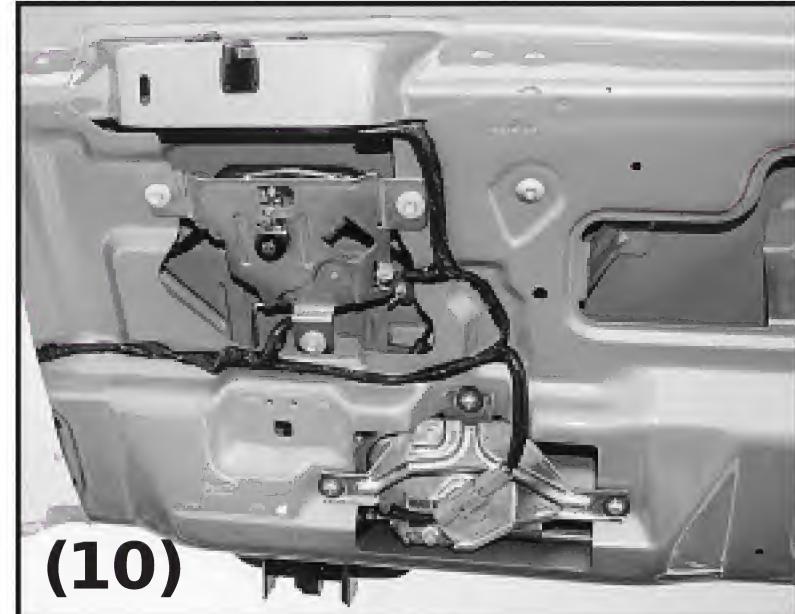


Remove the metal horseshoe clip and disconnect the linkage rod to remove the lock cylinder.



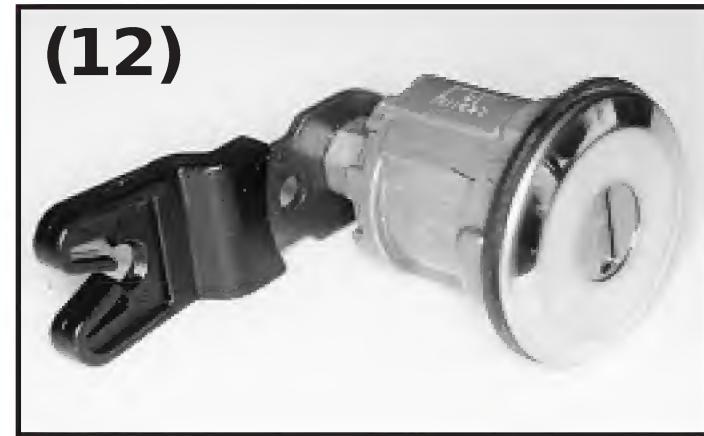
(8)

Remove the two grip handle screws.



(10)

Once the panel is removed it will be necessary to remove the three bolts that hold the large bell crank on, this will give you easier access to the lock cylinder.



The trunk lock is pictured.



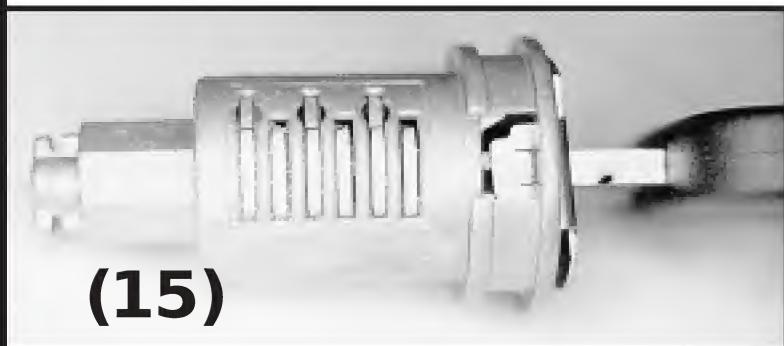
(13)

To disassemble the rear hatch lock cylinder you must first remove the face cap and tailpiece.



(14)

A view of the detent in the cylinder housing.



(15)

To remove or insert a tumbler it will be necessary to rock the tumbler back and forth. The rear hatch cylinder contains tumbler in positions 3 through 8.



A view of the lock cylinder disassembled.

medeco[®]
HIGH SECURITY LOCKS

**The market leader
in locking systems for security,
safety, and control.**

[Click here for more information](#)

(17)

GLOVE BOX:

The glove box is pictured. There is no lock cylinder.

Making First Key:

There are two steps, first you must make a mechanical key and then program in the new PATS (Transponder) code.

Step One / Mechanical Key:

Method #1 - Use EEZ-Reader in door lock, to determine cuts in positions 1 through 6, and then progression the two remaining cuts in the ignition, for positions 7 & 8. Or, impression/progression the remaining two cuts in the trunk lock. (The EEZ-Reader is sold by H.E. Mitchell Co.)

Method #2 - Remove the door cylinder and disassemble to decode the tumblers. Progression the two remaining cuts in the ignition, for positions 7 & 8. Or, impression/progression the remaining two cuts in the rear hatch lock.

Step Two / Transponder:

Programming Replacement Keys. (No other working key for car is available.)

1) Put the newly cut key into the keyway and turn it to the ON (RUN) position. A theft indicator light on the dashboard will flash for 15 minutes.

2) Within 5 minutes after the indicator light stops flashing, turn the ignition to OFF, then return to the ON (RUN) position. The indicator light again will flash for 15 minutes.

3) Again, within 5 minutes after the indicator light stops

flashing, turn the ignition to OFF, then return to the ON (RUN) position. The indicator light again will flash for 15 minutes. When the light stops flashing for the third time, the new key is programmed into the computer and will start the car. All previously stored codes will be erased. To stop the process at any time, simply remove the key and use an existing key to start the car.

To Create Just A Spare Key:

As many as 16 keys, each with its own individual electronic code, can be programmed into the computer for a vehicle equipped with PATS. The system will ignore attempts to enter a 17th code. If a key already programmed into the computer is available, programming another key only takes seconds.

1) Place an already programmed key in the keyway. Cycle the ignition from OFF to ON(RUN) to OFF.

2) Within 15 seconds, insert the new, properly cut PATS key in the ignition. Turn the key to ON(RUN) or START. The theft indicator light will go on for two seconds, after which the key will start the vehicle.

3) Repeat the second step for each new key to be programmed.

4) If the light flashes for 15 minutes, too much time elapsed between cycling of the already programmed key and the new key. If this happens, simply start over. If the light flashes for 1 minute, the new key is defective or is not a PATS key. Start again with a different key. To stop the process at any time, simply remove the key and use the pre-existing key to start the car.

5) To remove any key code from the system, erase all stored codes using the programming mode and re-enter the desired spare keys.

Code Series: FORD 8-Cut, 0001X-1706X

Key Blank: Ilco: H72-PT, Silca: FO38RT3, Curtis: H72-PT

M.A.C.S.: 2

Framon:

First cut: .405

Use spacing clip, align tip of key with left side of vise. Lay clip FLAT on left side of vise and slide key in from right.

Cut to Cut: .092

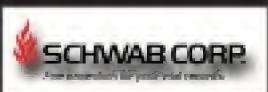
Depths: 1=.354, 2=.329, 3=.304, 4=.279, 5=.254

TNL

NATIONAL
AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

www.laserkey.com



Recycle That Star Door

Congratulations! You've drilled open a "Star" lift out round door with the precision of a skilled surgeon. What a great opening, couldn't have been better! But now what? Before the end of the day your customer will need a working safe door. Are you going to rebuild his door or give your customer another cost shock for a new door? Your customer hadn't planned on losing the combination or spilling pickle juice into the lock. No matter how low the cost of the opening, he isn't going to be happy. Plus, now he has the additional cost of replacing the safe door.

Opening a Star round door safe is only half of your job. Sure, it takes special training, the correct tools and a certain amount of expertise to open a safe, but, to return the safe door back to a new condition, that also takes a little more than the local hardware store key cutter!

If you have a door that looks like the one in Photograph 1, instead of throwing it into a corner, recycle it! This door can be rebuilt. You can guarantee it, your customer will save the cost of a new door, and you both will be dollars ahead. Even if your customer insists upon a new door, a rebuilt door is a good marketable item. It can also be used as a loaner or as a quick exchange for another rebuild job.

Photograph 2, is a Star parts kit for all of their standard 7-1/2 inch diameter round doors. The part number for this kit is M 2700. It contains all of the



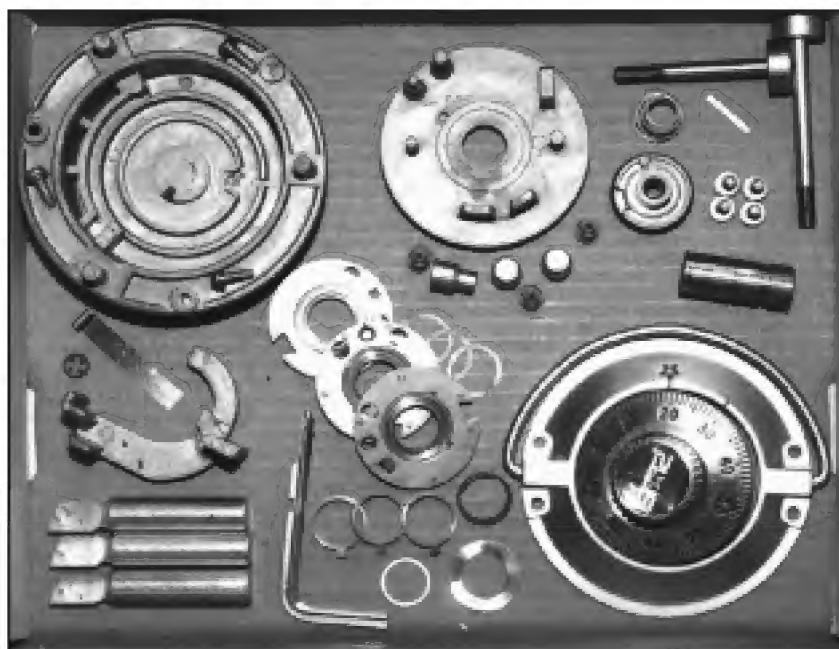
by Carl Cloud

1. A C-rated Star lift-out door.

door parts normally needed to rebuild a door. I say normally needed because it doesn't contain the hard plate or the wheel post. The hard plate doesn't need to be replaced and it's rare that

the wheel post will require replacement.

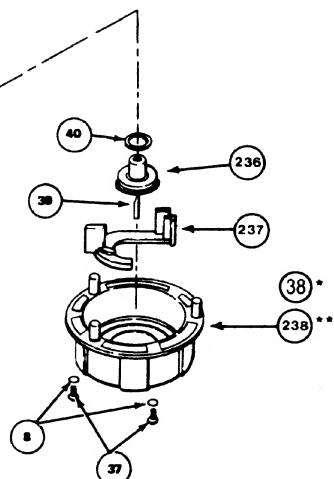
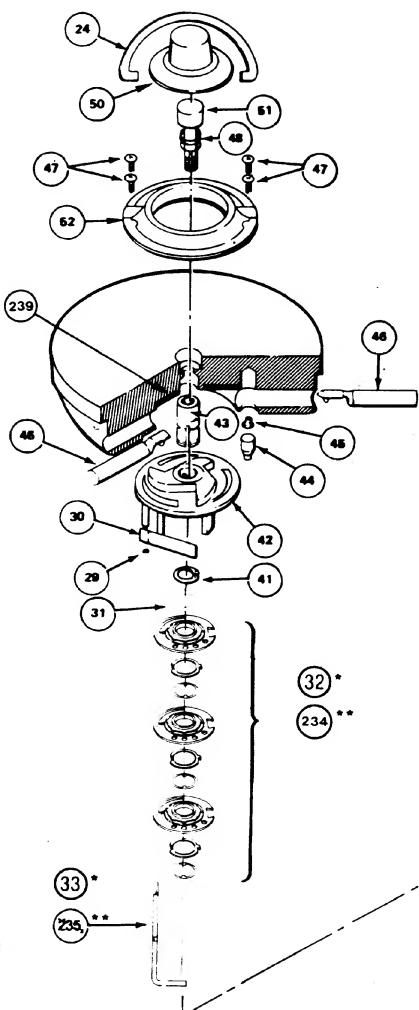
To start the rebuilding procedure, remove all parts from the old door



2. A Star parts kit for all of their standard 7-1/2 inch diameter round doors.

STAR 'C' RATE

LIFT-OUT COMBINATION DOOR



DOORS MANUFACTURED
BEFORE SERIAL NO. 182432
REQUIRE #236 & #237
BE REPLACED AT THE
SAME TIME.

ITEM NO'S 32 & 38
and 234 & 238 MUST
BE USED CONJUNCTIVELY.

*S&G

**LaGard

A. Remove all parts from the old door.

(see Illustration A). If the metal tag with the serial number is scarred and loose, I would remove it too. After the door is refinished, this shabby tag will really detract from the overall appearance. Some tags will be held in

place by two small drive-in pins. The newer models will have the tag glued in place.

According to the age of the door this tag will carry the model number

of the safe and or the serial number of the door. If the combination has been changed from the factory setting, the tag information is now of little or no use.

The three relocker pins may or may not want to come out. Some doors have the holes of the relockers slightly staked or peened to prevent the pins from falling out. If yours are not free to remove, don't worry about it. Just make sure the holes are clean and the pins move freely. If the holes or pins are rusty, then ream the top edge of the hole to free the pins for removal.

You may want to salvage a few of the parts according to their age or how much wear they show. I usually set aside the wheel pack with all the spacers and flys. The wheel pack used in this safe will either be manufactured by S&G or AM SEC.

The back cover can really be abused by the door being dropped. It can be distorted to the point that it will cause the lock to bind, and can be the culprit of a "hard to open" complaint. If your cover looks pretty good, save it for a future use. According to the age or wear, the rest of the parts may be junk. A word of warning. Star uses 'Sargent & Greenleaf' and 'LaGard' wheel packs. Door parts such as the cam and fence will not interchange, so don't mix them together.

To start the repair of the door body, we need to rotate the hard plate to a new location. If your door is an older model, the hard plate may be loose and can be removed. In the modern assembly operation, as the wheel post is pressed into the body, both the hard plate and post are staked in place at the same time.



**Make Sargent & Greenleaf's
Comptronic locks your
choice for electronic safe
locking solutions.**

[Click here for more information](#)

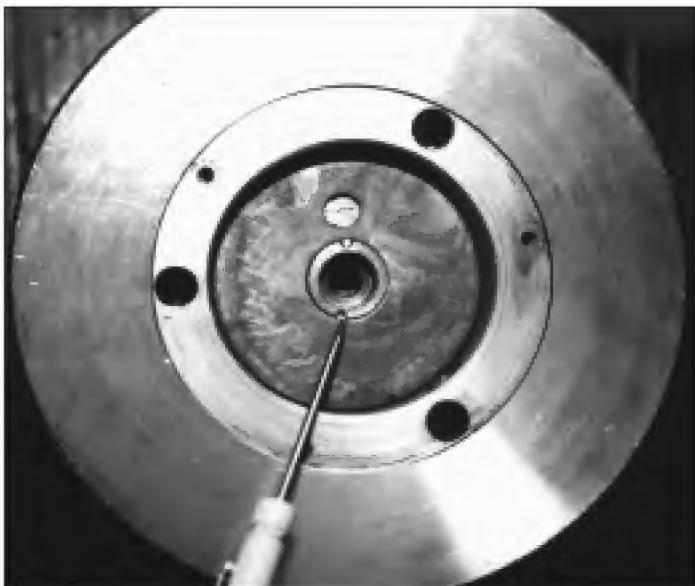
Photograph 3, shows the stake marks at the base of the wheel post. In this case, the plate is difficult to remove, but it can be rotated so a new portion of hard plate will be at the bottom of the drilled hole.

The drilled hole should be plugged with a hard steel rod or tapered pin. Cut the rod or pin about 1/4 inch shorter than needed, then drive in the plug to the bottom of the hole. You'll have a recess from the plug to the top edge of the door. This recess should be filled by arc welding. Grind the weld down smooth, and the door is ready to refinish.

Before we start, first check the wheel post. The wheels rotating around the wheel post will wear grooves into the sides of it. If you can visually see or feel ridges, the post should be replaced. A worn post will allow the wheels to oscillate, causing one wheel to drag another from its open position. As I mentioned earlier, a wheel post is not included in the parts kit. It will have to be ordered separately. The part number is B009101 and retails for \$8.00.

To remove the wheel post, drive it out of the door from the top, through the spindle hole. Angle a pin punch into the side wall of the post and drive the post downward. The brass post is soft. You may have to move your punch to new locations for a fresh 'bite' to completely drive out the post.

To install a new post, first place all three locking bolts into their positions in the door. Put the cam in place, making sure the pick-up pins of the bolts are resting into the retracting slots in the bottom of the cam. There is a truarc washer in the parts kit which is referred to as the "retaining ring." Install the



3. Shows the stake marks at the base of the wheel post.



4. The wheel post is installed at the factory by a hydraulic press.

ring into the groove which is about midpoint of the post. This ring will be your guide as to how far the wheel post is to be pressed into the door. Insert the post through the cam and position it for pressing into the receiving hole of the door.

The wheel post is installed at the factory by a hydraulic press. If you have a press the job is pretty simple (see Photograph 4). Use the hydraulic ram to slowly move the post down until the retaining ring just touches the cam. If you don't have the luxury of a press, the post can be installed by hand.

The inside diameter of the post reduces in size and forms a step. Place a 1/2" diameter rod into the post. The rod will rest on the inner step. Drive the post downward with a stout hammer. When the retaining ring gets close to the cam, go easy. If you drive the post too deep, the cam will be bound and won't turn.

You should be able to slightly wobble the cam left and right, and of course, it should rotate freely. If you don't have a 1/2" rod, a 1/2" bolt will do (see Photograph 5). If you use a bolt, be sure to grind the threaded end flat to insure that the post enters the hole straight.

Remove the cam and locking bolts from the door. Inspect the three guide holes for the bolts. These holes are located near the bottom edge of the door. The lower wall portion of the holes are very thin and can be flattened from repeated dropping of the door. If the locking bolts retract stiffly, the chances are good that the holes are out of round. Ream or bevel the entrance of the holes until the bolts are moving freely. Be sure to flush and clean these holes with a good stiff brush to remove any rust or old grease.

It's now time to refinish the door. If the plated face of the



door is in good shape and just needs to be cleaned and buffed, you should only repaint the area concealed under the dial and dial ring. First, fill all the scratches and dings. Use a good filler putty such as "bondo glazing & spot putty." When the putty has hardened, sand down the filled area smooth, so there is no evidence of the drilled hole.

Mask off the area and paint with a primer. Aerosol spray cans of paint work well for these small jobs. I like the Krylon brand, but use whatever works for you. When the primer is completely dry, lightly sand with a very fine sandpaper or steel wool. If all signs of the repair are hidden, then spray the area with an aluminum paint. If the door has been nicked, dinged and scratched, clean the entire door and sand or grind away any rust.

Once the paint has thoroughly dried, you can begin replacing the parts. Start by installing the dial

5. If you don't have the luxury of a press, the post can be installed by hand.



**It's not safe unless
it's Schwab Safe.**

[Click here for more information](#)

ring and handle bale (it will give you a surface to lay the door on, so as to not scratch your new paint job). There are only two ways the dial ring can be installed, so your odds are 50/50 of getting it right. To save you a lot of disassembly time to correct it, here's the right position. One of the locking bolts is located at 4, as read from the dial. If the dial ring is installed correctly, there should be a locking bolt hole just to the right of top center from the opening index. If you still have the metal identification tag affixed to the door, it will always be located at a nine o'clock position in relation to the opening index.

Now turn the door over. If you are replacing the relockers, put in the three springs, small cone end facing up. Seat in the relocker pins with their small ends facing up. Depress a relocker with a small screwdriver or probe and slide in the locking bolt. The relocker pin will seat into a grove formed at the beginning of the flat portion of the bolt. Install all of the locking bolts, being sure to rotate each one so the pick-up pin is facing upward.

The next part to be installed is the cam. Be sure to lubricate the retracting slots on the bottom side of the cam. Use a good paste grease, concentrating on the "stops" or ends of the slots. This is the area of the most wear. Don't pack the grooves with grease, a light coating will suffice.

The positioning of the cam into the door is critical. It will seat in any of three positions, but will only assemble in the correct one. The fence guides of the cam (the two slightly curved posts with a narrow space between them) must be facing to an eight o'clock position as you look down into the door. This eight o'clock position is in relation to the index mark of the dial ring being at twelve o'clock. If you drilled this door which you are repairing, your drill point was probably at 41 to see the fence. You must install the cam with the fence guides facing the 41 direction.

To insure that you are correct, place the dial into the dial ring with zero at the opening index. Mark a line from the center of the dial

through 41 and to the edge of the door. Transfer your line to the bottom of the door and position the cam fence guides to the line.

Secure the cam to the wheel post by installing the retaining ring. The ring should always be spread open and placed in position with a pair of truarc pliers. Never force the ring over the top of the post and slide it down to the grooved slot. This procedure will burr or badly scratch the wheel post.

The wheel pack is now ready to be installed. Make sure that you put the large spacing washer on the wheel post first. If your wheel pack is Sargent & Greenleaf, the bottom wheel is identified by not having a drive pin. This is the first wheel to go on the post, followed by a 'fly' and a spacing washer. Complete the wheel pack and secure it with the spirolox washer at the top of the wheel post. Did you remember to place the odd looking fly into the top wheel?

If you are not sure of the sequence of parts, Illustration A, shows an

Continued on page 52



SRI and Steve Young are working together to bring you the best in locksmith tools and supplies.

[Click here for more information](#)

It's your
reputation.

STRATTEC™

Trust the
original.

[Click here for more information](#)

Continued from page 51
exploded view of the Star door. The Star parts kit will contain two dial spindles. The short one is for the 'C' rate door. The longer spindle is for the thicker 'E' or TL-15 rated door.

To install the spindle and drive cam; stand the door on edge. Press the dial onto the spindle. Slip the cone shaped spring, with the small end facing the dial, onto the spindle. Insert the spindle into the spindle hole of the door. With a little pressure against the dial, let the spindle protrude beyond the end of the wheel post. Thread the drive cam onto the spindle until the spindle end is flush with the face of the cam and align the splines of the spindle and drive cam. The spindle should not extend or thread out of the cam.

The older style spline key has one end which has a slight taper. One side of the spline key also has a little bump. The bump side faces the drive cam. Because the cam is a softer metal than the steel spindle, the bump will dig into the metal of the cam, binding it tight. Don't drive the spline key flush with the face of the cam. Leave a sufficient amount sticking up to grasp for future removal.

Service Note: If you find a spline key flush with the cam face and are unable to pull it out, drive it down through the drive cam. The spline in the spindle is cut long enough to permit the key to be pushed beyond the thickness of the cam, allowing the cam to be un-threaded from the spindle. The new design spindle accepts a standard S&G Spline key which is the same one used in the 6730 and 8500 etc.

The fence spring is a piece of flat spring steel with a loop formed on one end. Slide the spring onto its securing post. The spring should curl around the post and end facing the adjacent post on the right. Press the retaining ring down on the securing post to hold the fence spring in place.

The next part to be installed is the fence. The movement of the fence within the lock is created only by the fence spring. Consequently, the fence must be able to move free and smoothly. Since this is a cast part, check for any rough areas. Lay the fence into the back cover and note

the contact areas. File or sand any contact points which haven't been smoothly finished.

The fence will always be in contact with the drive cam, therefore, a light lubrication should be given to the outer edge of the drive cam and the cam gate. Remember, grease attracts dust and dirt. Any lubrication within the door must be kept to an absolute minimum.

Bend the lever spring around the adjacent post and hold. Set the fence in place and engage the lever spring. Test the free movement of the fence by pushing it against the spring pressure. Insure that the spring will fully return the fence against the drive cam. If everything checks out we are ready for the back cover.

If you are installing a new wheel pack, you won't know the combination of the wheels. At this time you will need to set the wheels to the change position. When the back cover is on, the change key can then be inserted and a new combination set.

As with the lock cam, the back cover will only install in one position. Set the cover in place with the three protruding posts resting on the relockers. You will find that the three mounting screw holes will only align with the receiving holes of the door in only one of the three possible positions. If you have installed the lock cam correctly, the cover will fit into place and have a slight amount of rotational play. If the three mounting holes all align, but the cover doesn't want to seat, rotate the lock cam clockwise. This adjustment of the cam aligns the fence to enter into the receiving slot of the back cover.

Secure the back cover with the three machine screws. Each screw should have a lock washer. Loose mounting screws will cause the relockers to release and the result is a safe lockout! Before spinning the dial, remember to insert a change key and set in a new combination.

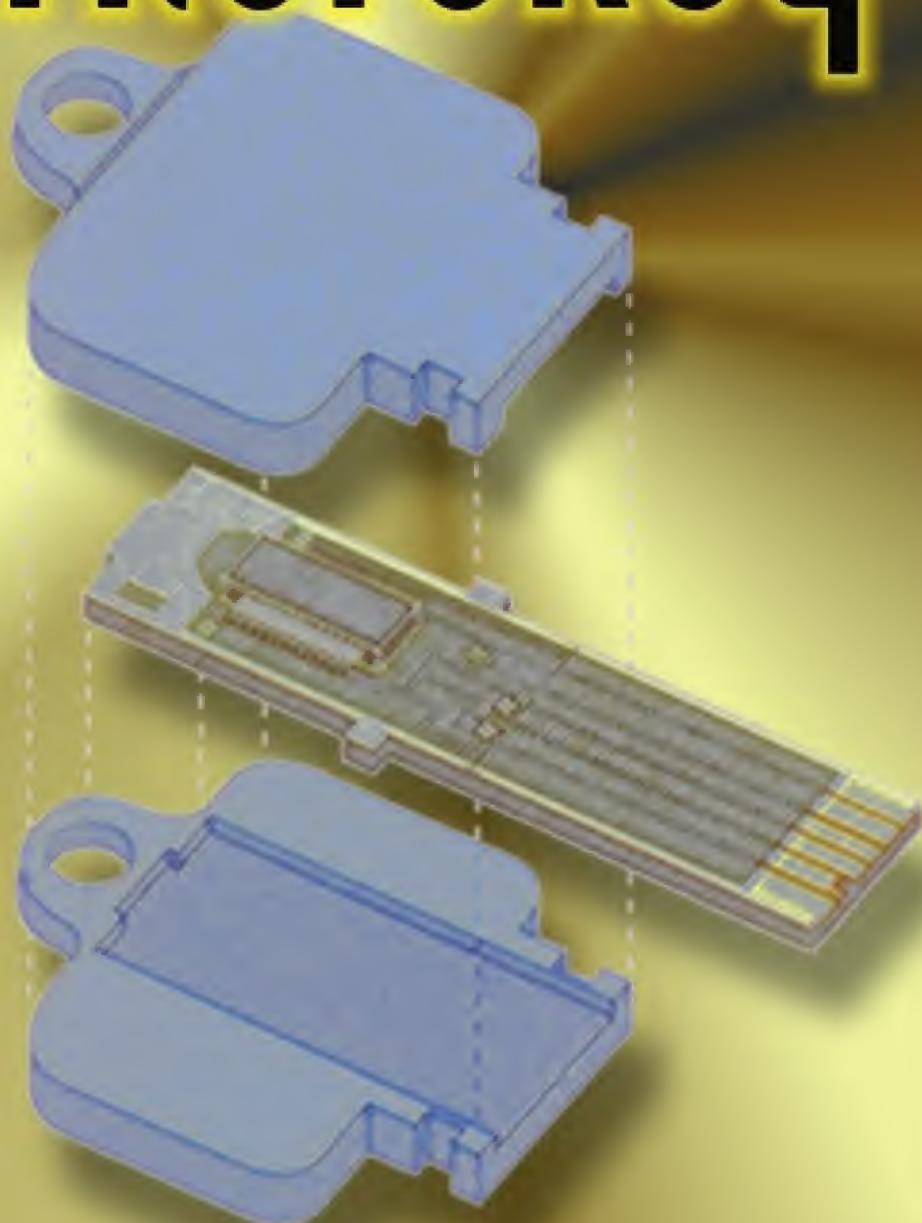
Test the lock for smooth operating. If you have cleaned, lubricated, deburred and installed all parts correctly, the lock should function as good, if not better, than a brand new door.

TNL



Winfield MicroKey

by Jim Bickers



Winfield MicroKey has been providing the access control industry with dependable locking and access control devices for a number of years. In 1989, the MicroKey lock set was introduced. Two different versions of this lock have been developed: one for the hotel industry and one for commercial usage. The mortise lock is also available with a standard mechanical cylinder for those situations which do not require electronic security or audit capabilities. I will be discussing the commercial version in this article.



1. The Mortise Lock 600 Series.



2. The Tubular Lock 1000 Series.

Continued on page 56



Continued from page 54



3. The Auto Deadbolt 500 Series.



4. The Utility Device is a hand held package that fits into either the MicroKey lock or the key cutter.



5. Information can be transferred to a computer and can print out the required information.



6. The actual MicroKey is a unique key that is actually a small circuit board.

There are three different styles of commercial locks; the Mortise Lock 600 Series (see photograph 1), the Tubular Lock 1000 Series (see photograph 2) and the Auto Deadbolt 500 Series (see photograph 3).

All three locks are easily retrofitted into existing door mounts. The only alteration to the door you will need to make is to cut one elongated 2-1/2" X 5" hole approximately two inches above the original hole in the door to allow for the micro-processor and hardware assembly to fit.

Winfield provides paper templates with each lock to aid installation that shows the correct drilling location. If you plan on installing a lot of these locks, you can also buy a regular jig that mounts to the door and will cut the installation time considerably.

Each MicroKey lock is a stand-alone unit that works off four AA batteries. Each battery pack is sealed and has a connector that plugs inside

the lock. The batteries are rated for 25000 key insertions. When the batteries start to die the lock will begin to beep eight times after each key insertion. The manufacturer says that this will happen somewhere around two to three months before the batteries actually die.

If for some reason the batteries do die, MicroKey came up with an external power supply that can be inserted into the front of the lock. This device, which is powered by four AA batteries, supplies power from outside of the lock. To use the device simply insert the shank end into the key slot in the lock, then insert any key that is assigned to the lock into the key slot on top of the device.

MicroKey also offers both perimeter access and elevator access solutions with special readers for customers that want their lock to be hardwired into some other form of access control. The lock can also be interfaced with panic hardware. All of the locks conform to the ADA requirements, and weather guard kits are available for locks that may be exposed to harsh weather conditions.

The commercial MicroKey system runs off a Windows based program that requires at least Windows 3.1 or higher, ten Megabytes of hard drive, and 8 Megabytes of RAM. The entire program can be learned in less than a day and is very user friendly. It also comes password protected. The software gives the user the ability to print reports on each lock by inserting the supplied utility device into the lock.

The Utility Device is a hand held package that has a small LED display and a key shank that fits into either the MicroKey lock or the key cutter (see photograph 4). It is used to transfer data and time information from the computer to the lock, and to transfer the transaction file of a single lock to the computer. You can then transfer this information to the computer and print out the required information (see photograph 5). For instance; would you like to know who entered a particular door at a particular time? Or how about the



former employee who walked off with their key and keeps coming back trying to gain access? The lock will record the last 1200 key insertions. Even those keys that you have locked out and those that are no longer valid will show up on the report. It will also record the time of day that the key was inserted.

MicroKey offers some other unique features not found on other stand alone systems. For instance, how many stand-alone access control systems offer five level master keying? There are no pages of time consuming charts or expensive computer programs. Not to mention the time consuming task of actually repinning all the locks. The computer program will do it all for you with a few key strokes from the computer. Each lock can also be programmed for five different functions: passage, store room, office, privacy, and what is referred to as dormitory.

Each lock and key system, which would normally include an entire building or complex, is referred to as a job. Each job creates its own unique electronic keyway pattern that cannot be duplicated. Even if you create more than one job on your computer you



7. The Key Cutter is a communication device which information is transferred to and from the MicroKey.

will still not be able to interchange the keys from one job to the other without reprogramming that particular key. Each job will contain all the master key levels and key functions you will need. The amount of jobs that can be created is only limited by the hard drive space in your computer. The more space, the more jobs.

Each job is capable of handling 65,000 individual users. This brings the locksmith a unique opportunity to possibly market this product to residential customers. The locksmith sets up the jobs for each customer, programs the keys, and installs the lock for the customer. Each individual household becomes a separate job on the locksmith's computer. The customers will in turn need to come back to that particular locksmith to have their keys cut, batteries changed, and maintenance completed on their locks. Think of the possibilities!

The actual MicroKey is a unique key that is actually a small circuit board, which is the key shank (see photograph 6). A programmable computer chip is embedded in the head of the key. Information is programmed into the lock by way of a program key you cut from the electronic key programmer which comes with the MicroKey package.

The Key Cutter is a communication device through which information is transferred to and from the MicroKey, and to and from the utility device (see photograph 7). Through the key cutter, keys are programmed and read, time and calendar information is



**Don't panic!
We have
Security Exit
Devices.**

[Click here for more information](#)



**ASP Covers the World
of Auto Locks**

[Click here for more information](#)



To be a
World Leader
You Need
Quality
Products,
Innovative
Technology
and Strong
Partners.

[Click here for more information](#)

transferred to the utility device, and a lock is transferred to the computer.

This program key tells the lock what function it is to perform. The key has gold connectors on the outside of the key that actually relay the information from the program key or the user key to the lock. The keys are very durable and will withstand normal everyday abuse.

I wanted to test the key to see if it was waterproof, so I took the key and submersed it in water for over three days. When I tried it in the lock, I was surprised, it worked perfectly! The keys are rated for over 100,000 reprograms.

There are 16 different key types that can be programmed into the key: program key, construction program, construction key, access, emergency access, disable/enable branch, disable/enable change level, disable/enable change level lock, repinning emergency, repinning level, reset, restore all users, service, user lockout, user restore. MicroKey also offers two special levels for their lock; one is called special key, which is separate from the master system. The other is a twin key function for high

security areas such as drug closets or evidence rooms. The twin key function will only allow the lock to open after two keys that are programmed correctly are inserted into the lock within 15 seconds of each other.

Each MicroKey lock comes in a variety of different finishes and can be ordered in either right or left handing. I have experimented with the lock and installed the program. In playing around with both the lock and program, I have found the lock to be of high quality and made with quality craftsmanship. The program is user friendly and very thorough in its instructions. I do believe that there is a strong market for an access control device that can both control access and be used as a primary locking device. Check it out, you just may be impressed.

For more information contact
Winfield at:
1020 West 17th Street
Costa Mesa, CA 92627
Phone: 800-523-9605
or (714) 722-5400
Fax: (714) 722-7017

TNL



**HPC has it all:
Key Machines, Software, Books, Car
Openers, Pick Sets, Tools, Door
Guards, and Key Cabinets**

[Click here for more information](#)

National Security Gun Safe

My friend Tommy Powers and I do a lot of warranty work on gun safes. Most of the calls consist of safes not opening with known combinations. National Security Safe called Tommy and wanted him to work on a large unit that refused to open. Since the location was halfway between his location and mine, so we met halfway. The gun safe was located in a modest "million dollar" house. It had worked for two years and had suddenly just stopped working. It can be seen in **photograph 1**.

It had a tri-bolt handle with a friction clutch arrangement. The handle can be turned even when the door is locked. The arrangement of the dial to the position of the handle would indicate a high probability of being mounted VD (vertical down). The S&G combination dial was gold, with the logo of National Security emblazoned on it.

Our first mode of attack was to try and dial the combination. It was rather strange, but the dial had been taped to the door with package sealing tape. The customer stated that the dial became very loose, and to keep it in place, he had pasted it to the door.

After dialing the first trial combination, Tommy laughed a little and asked me to try any combination.

Expecting a trick, I first counted the three wheels by slowly dialing. They felt fine. I then tried a combination two numbers higher than the listed combination, and turned slowly right to the drop-in area. There was no feel of the

lever dropping into the drive cam and no contact points.

This means that the lever was being held above the drive cam. No amount of tapping, shaking, jolting, or vibrating would free the lever to indicate contact points anywhere on the dial. Obviously it was time to drill.

While Tommy was assembling the hardplate drill rig, I free handed a hole in the door at about 72 x 7/8 inch from the dial's center. This is the drop-in position for a VD mounted lock. Imagine my little surprise when in about one minute, I had freely penetrated the door and combination lock case with little or no exceptional effort, energy, exertion, labor, trouble or struggle. I used a sharp 1/4 inch drill bit for steel. No sweat. **Photograph 2**, shows the hole and position that I used. It was too easy.

I finished the hole before Thomas got his drill rig put together.



by Dale Libby, CMS

Dale adds some important information about the relocker position of the National Security Gun Safe.



1. The National Security Gun safe with tri-bolt opening handle. From position of handle to combination lock, it would be a good bet that the lock is mounted vertical down.



LOCKMASTERS
SECURITY
MANAGEMENT

TM

**Providing
quality tools,
parts, and
service for
the security
professional.**



LOCKMASTERS
SECURITY
MANAGEMENT

TM

[Click here for more information](#)

Continued from page 60

The customer was much more surprised than Tom or I was. He was flashing his plastic coated color brochure that stated that because of the massive ball bearing matrix, the safe could "NOT BE DRILLED." He called the factory, and the representative there said that National Security incorporated a "Back Door" if the safe had to be drilled. He would give that information to the service person when they called if we had to drill, otherwise there would be no way we could get into the safe.

We did not call the company for information. **Photograph 3**, shows my long haired friend little Tommy Powers using an otoscope and small probe to open the combination lock, and then the door. Once the three wheel gates were aligned under the fence, he had to probe the lever and fence into the gates and drive cam. The fence was crooked and cracked, and had obviously caused the lock to malfunction.

Photograph 4, shows the bolt work and VD lock position. If you look at the bottom of the picture, you may be able to see the secondary remote relocker. It is held in place by a wire seen in the top of the picture angling up, then down to the right of the combination lock.

Photograph 5, shows a close up of the combination lock with the extension arm back cover. The outermost hole in the arm is for the pin in the spring loaded relock device just to the left of the lock. The other hole in the arm has a wire attached to it that goes to the remote relocker. Once the back cover is punched off, both relock devices will be set off.

Unseating this relocker consists of drilling and punching, drilling and lifting the relock device or by just drilling through the pin. A drill point to drill and lift the relock device next to the combination lock is 2-1/2 inches right of dial center and 2 inches down.



2. After pulling dial, I free handed a hole at 72 by 7/8 inch out from dial center. Right on the money.



3. Little Tommy Powers scoping the drop-in point and opening the safe in about 7 minutes, start to finish.

The bottom relocking device is easy to deactivate. It is held in place by a wire attached to the back of the combination lock case. When this relocker is set off, the wire is still attached to the lock case and will not pull free. Just drill between 4 to 5 inches in from the edge of the door and about 1 foot below the combination lock.

Use your borescope to locate the slack wire. Once the wire is located, it can be hooked and pulled to pull the spring loaded bolt up and away from blocking the movement of the bottom door lock bolt. This remote relocker can be seen in **photograph 6**.

I use a flat blade screwdriver with a slot cut in it. Once I have grabbed (hooked) the wire, I insert the slot and twist the screwdriver to take up slack. This has worked well for me in the past. On occasion I have had to enlarge the hole to 5/ 16 inch.

I have encountered several problems with the S&G 6741 type lock.

The most obvious difference between this lock and the standard 6730 combination lock is the lever and wheels. On the 6741 the lever is cast in one piece. On the 6730, the fence is inserted and silver soldered into place. It is a much stronger fence to lever arrangement. The fence on the 6741 is also slimmer and more pointed than the standard 6730 fence.

The wheels on the 6741 are also cast as opposed to stamped on the 6730. The drive cam gate between both locks differ in angular silhouette as well. They cannot be interchanged.

After hours of study, I determined that the cast fence was bent and wedged into the lock and would not let the lever drop. This is why there was no contact points when the wheels were dialed. With no contact points, the safe could never have been dialed open. The fence was bent and fractured, but still attached to the lever. If it had been free to move, one would have had to dial each number of the combination about two numbers higher for each wheel to align with the lever. That is not one of my usual dialing sequences in my bag of troubleshooting procedures.

OPEN AND PROSPER! **TNL**



4. Inside bolt configuration.
Wire for relocker can be seen.



5. Close up of VD S&G combination lock and adjacent relocking device. Remote relock wire is also attached to arm on lock case cover. If you set one relock off, you set two off.



6. Close up of remote relocker. A spring pinned bolt locks into place behind the bottom bolt when set off.

Major
MANUFACTURING, INC.

Every
Installation
Is a Self-Portrait
Of the Person
Who Did It.
Autograph Your
Work with
Excellence.

Major
MANUFACTURING, INC.

[Click here for more information](#)



by
Michael Hyde

Servicing the 1998 Dodge Ram Van

The Dodge Ram Van is one of the most popular full size vans in the country. It has proven to be a workhorse and dependable. Many locksmiths use Ram Vans for their business. This van has dual front airbags and vertical linkage rods.

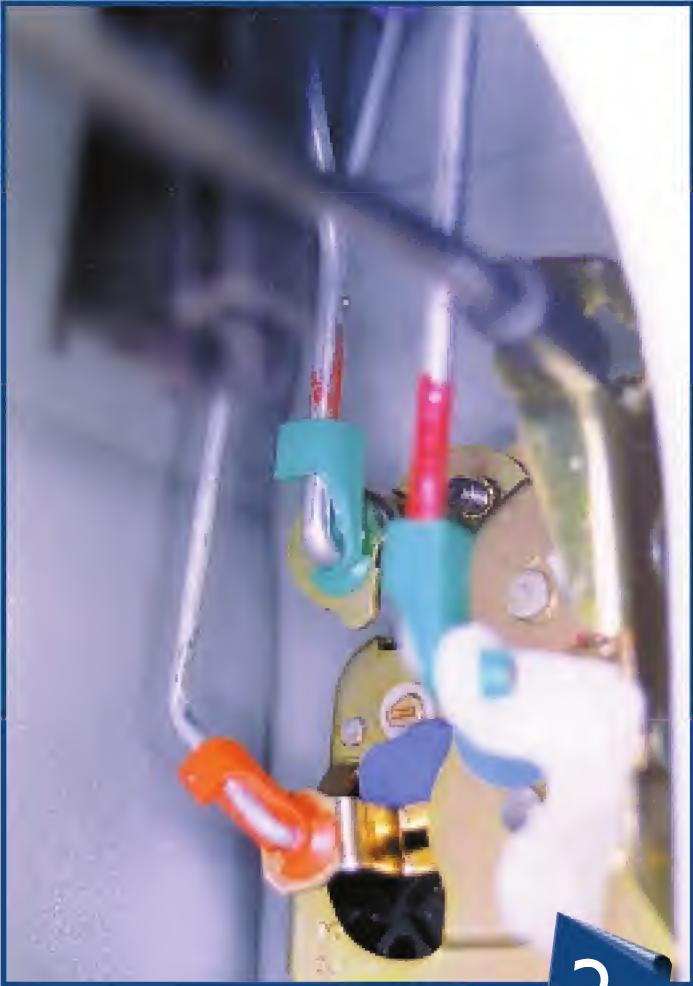
1.





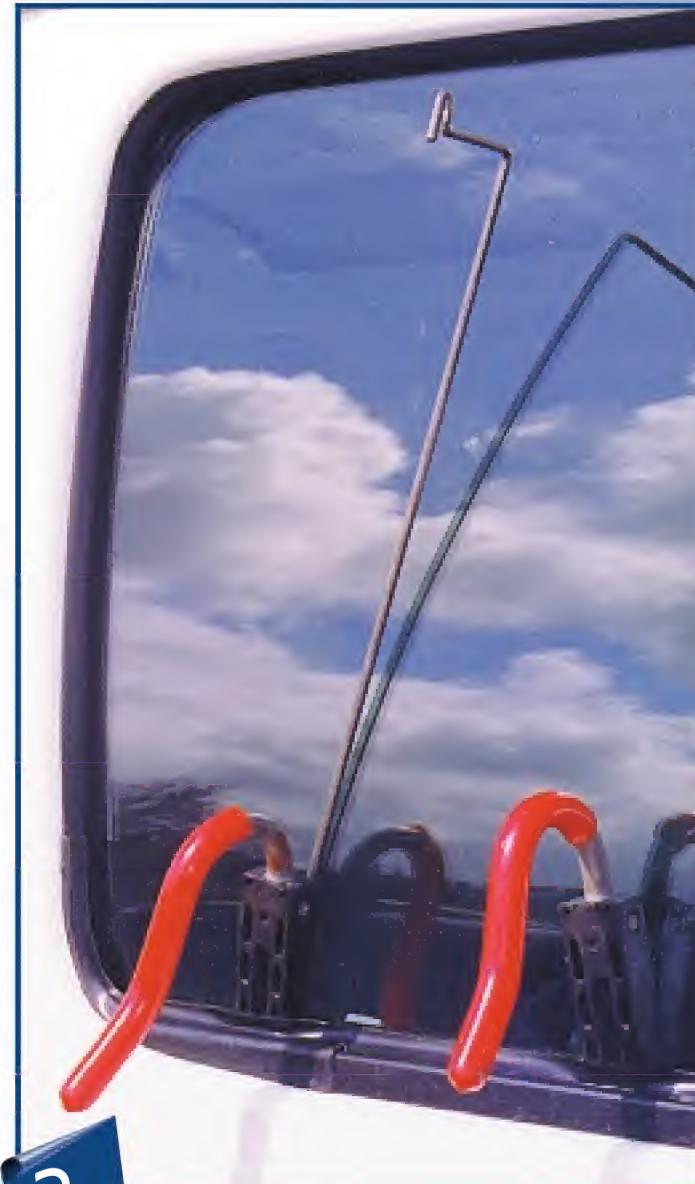
Continued from page 64

Vehicle Opening



2.

The linkage rods in the 1998 models are all unshielded and use plastic connector clips.

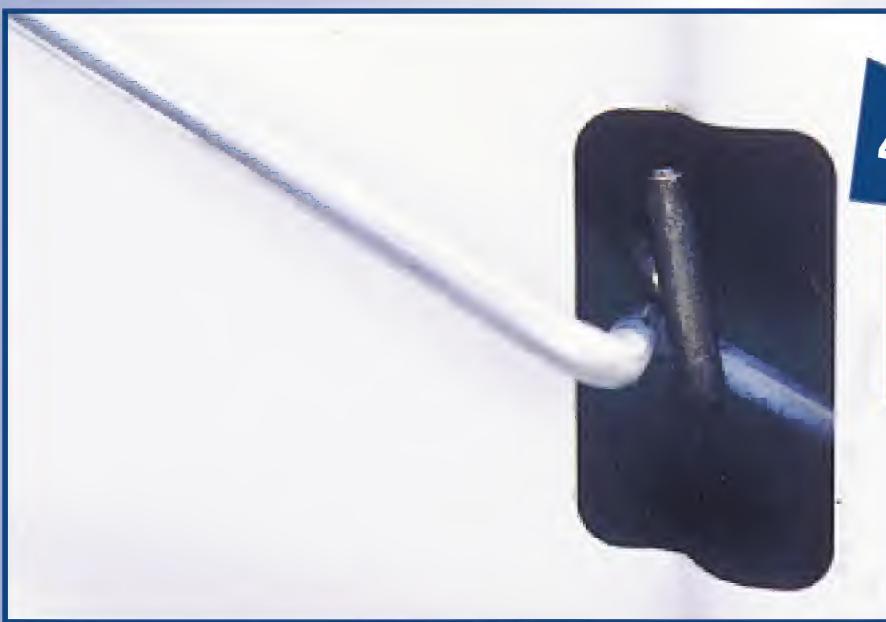


3.

Lower an inverted horizontal slide linkage tool into the passenger door about 3-4 inches from the glass edge and about 7 inches down inside the door.

4.

You should be able to make contact with the inside locking button linkage rod and raise it to unlock.





Continued from page 66

Door Lock



5.

The door lock cylinders on this van are mounted separate from the door handles.



6.

The inside door panels are completely new for this van. They are now using plastic panels that run the full length of the door.



7.

This panel is removed pretty easily. First remove the panel screw on the very right upper side. Remove the panel screw that is inside the door pull cavity. Remove the panel screw located in the trim of the inside door release handle and then remove the trim plate.



Continued from page 68





12.

The door lock cylinder can be easily removed. The cylinder is held in place by a metal horseshoe style clip.

13.

The door lock cylinder comes apart by removing the face cap and tailpiece. The replacement face-cap part number is Strattec #321848. The tumbler part numbers are Strattec #1=322361, #2=322362, #3=322363, #4=322364. The door locks contain tumblers in positions 2 through 8.



medeco®
HIGH SECURITY LOCKS

**Integrity. Ingenuity....
security solutions.**

[Click here for more information](#)



→ Ignition



This is a new column on the 1998 Ram Van. This column is almost identical to the CSS columns used on the GM trucks and vans.

The ignition cylinder has no secondary housing like other ignition locks. The cylinder plug is inserted directly into the lock housing mounted to the column.

14.



Remove the tilt-adjusting lever on the left side of the column. The lever pulls right out.

16.

On the left side of the column there is an external Torx #5 screw that must be removed.



15.

To remove the ignition cylinder plug, first remove the 2 Torx screws on the underside of the column shroud.



17.

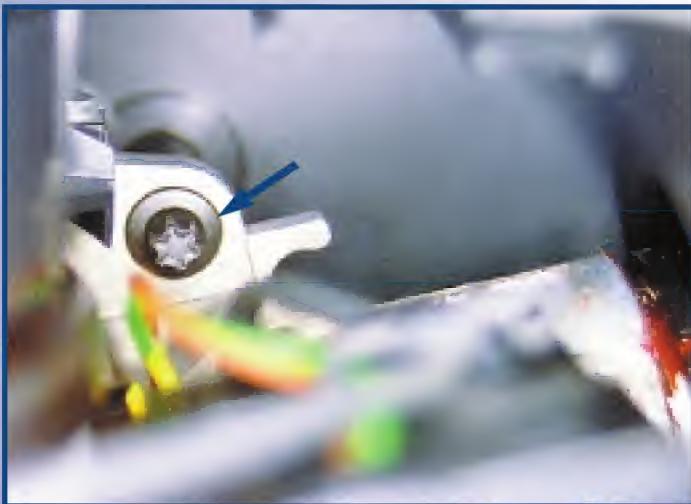
The bottom section of the plastic shroud can now be unsnapped and removed. There are 2 hooks on the rear of the shroud that inter-lock with the upper shroud. Be careful when separating the two, as the hooks are plastic.



18.

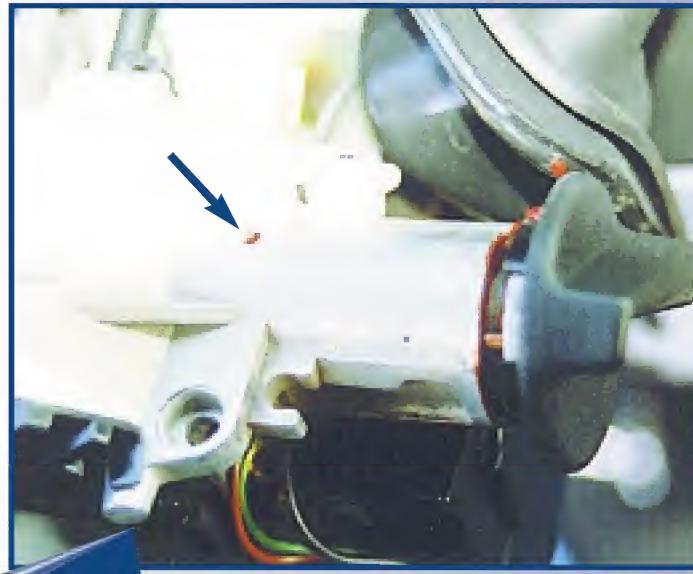


Continued from page 72



19.

The other Torx screw can be found up in the right side of the column. Use a ratchet with an extension to reach the screw. The shroud is plastic so be careful when re-assembling.



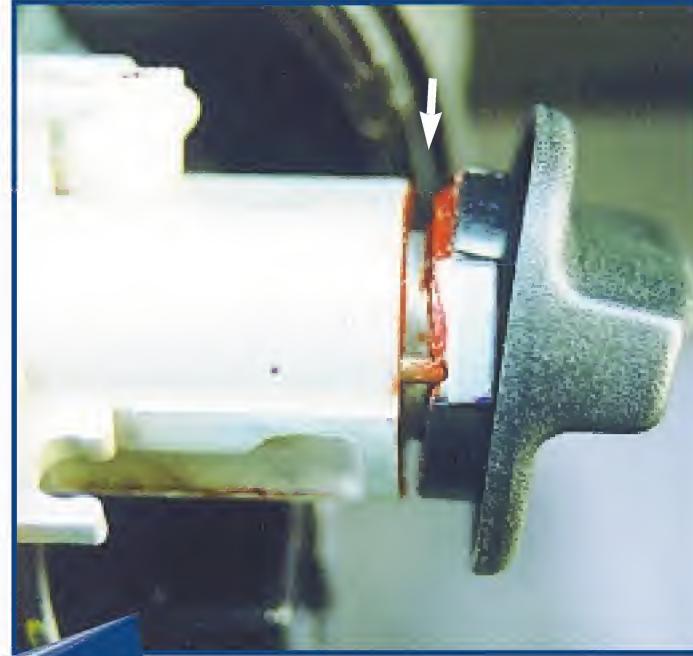
21.

If you have a working key you can remove the ignition lock cylinder plug by rotating the cylinder to the start position and depressing the active retainer through the access hole. Put the van in gear when you try to do this so you won't engage the starter motor. If you hear the starter motor, you are doing something wrong and should stop immediately.



20.

Unlike other CSS columns, the upper shroud on this column can be removed because there is a large opening for the ignition lock cylinder plug.



22.

If you do not have a working key, the cylinder can be picked and then removed. Watch how easy this lock is to work on. The engineers didn't think about this very long. First, gently and I mean gently unsnap the plastic ears on the cylinder plug.



Continued from page 74



Insert a lock pick or similar device down the side of the lock housing where the sidebar is located.

23.



24.

The pick inserted in the sidebar cavity is keeping medium to strong pressure on the sidebar while the tumblers are raked. This took about 1 minute to pick. The time it takes to pick is dependent on getting just the right pressure on the sidebar. When you get it picked it will turn slightly. Do not force it or turn it any farther without first inserting a pick or keyblank cut all the way down to raise the delicate plastic buzzer out the way. Once the buzzer is raised out of the way, the cylinder plug will rotate easily. Rotate the cylinder plug to the start position and depress the active retainer through the access hole. Put the van in gear when you try to do this so you won't engage the starter motor. If you hear the starter motor, you are doing something wrong and should stop immediately.

NATIONAL
AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

www.laserkey.com



The active retainer was depressed on the cylinder plug and the plug slides right out to be worked on.

25.



26. A view of the ignition cylinder housing. The buzzer switch is mounted on the forward section of the housing, near the gear shifter.

27.



The ignition cylinder plug contains all 8 tumblers. These tumblers are same as the tumblers used in the GM 10-cut sidebar ignitions with the same type of column.



When re-assembling the left-hand upper column shroud, use something to hold the plastic post the screw goes into. If you do not do this the post could turn too far and break the plastic shroud.

28.

Glovebox ←



The glove box is repositioned on the 1998 models and has no keyed lock.



This van is equipped with an ON/OFF switch for the front passenger seat airbag.

30.

Vital Statistics

Code Series: M001 - 2618

Key Blanks: Ilco - Y157, Y159; Silca - CY22, CY24;

Jet: - Y157, Y159; Curtis: - Y157, Y159

Spacing:

.941, .849, .757, .665, .573, .481, .389, .297

Cut to Cut Spacing: .092

Depths:

1 = .340

2 = .315

2 = .290

4 = .265

Gauged: Tip

Cut: Bow to Tip

M.A.C.S.: 2

HPC 1200CM: CX102

Framon: Lay tip stop clip flat against left side of vise and tip stop key against clip. Cuts start at: .310

Making First Key

1. Use a tool called an 'EEZ-Reader' to determine the cuts in the door for positions 2 - 8. Next progress the number 1 cut (bow cut) in the ignition. You will then have all the cuts necessary for a complete key.

2. You must remove a door lock cylinder and decode it. Once you have those seven cuts, you will need to progress the number 1 cut (bow cut) in the ignition. You will then have all the cuts necessary for a complete key. **TNL**



**Choose S&G Comptronic
electronic safe locks for...security...
technology...tradition.**

[Click here for more information](#)



Ford Trunk Opening

by Tom Seroogy II

This article will explain how to get into a car trunk that cannot be opened with a key or inside release. Once the trunk is successfully opened, I will show how to install a new lock. By using the following simple procedure you can easily make a few extra dollars - a locksmiths best friend. This particular vehicle, a 1985 Ford Tempo, backed into a pole, dislodging the trunk lock shaft. The key turned without releasing the latch.

In short, this is how we are going to open the trunk:

1. Drill the old lock out.
2. Remove the lock.
3. Key up the new lock.
4. Install the new lock.
5. Check to see that the new lock works.

2

Scratching the car is easy, so putting tape around the lock helps prevent a scratch. I used a 1/2" drill bit to drill the lock out. Since there is a high chance for snapping the drill bit, it may be smarter to drill a pilot hole. For example use a 3/16" drill bit and work your way up.

Drilling the Lock

1

To begin drilling the lock, first remove the facecap. Using decapping pliers, push the lock plug down while inserting the edge of the pliers under the facecap. Now peel the facecap back.

3

The plug has been drilled.



Continued from page 80

4



Insert a flat blade screw driver and turn to release the latch.

Lock Removal

5



Starting by using an 8mm socket to remove the latch.

6



Be careful when removing the latch because there will be debris on it from drilling the lock.

7



Behind the lock will be a latch bracket clip, remove it out with pliers.

8



The latch bracket clip may be hard to remove because it has lock tabs.



Major
MANUFACTURING, INC.

NATIONAL
AUTO LOCK SERVICE, INC.

SRI
SECURITY
RESOURCES INC.

STRATTEC

HR

ASP

The
National
Locksmith



9

**Remove the latch
bracket, then remove the
lock retaining clip.**



10

**The lock retaining clip was
considerably easier to
remove than the latch
bracket clip because it does
not have lock tabs.**



SCHWAB CORP.

Fire protection for your vital records.

**Free freight!!
No middle man!!**

[Click here for more information](#)



11

Now simply pull the lock out.



12

The new lock that is being used is All-Lock's TL1595U Ford deck lock.



13

The lock being pinned to the customers key with All-Lock's SK6000 pinning kit.



14

The lock is assembled and ready for installation.



Major
MANUFACTURING, INC.

NATIONAL
AUTO LOCK SERVICE, INC.

SRI
SECURITY
RESOURCES INC.

STRATTEC

HP

ASP

The
National
Locksmith

15



*Installing the
new lock is
easy. First put
the lock in the
trunk.*

SRI
SECURITY
RESOURCES INC.

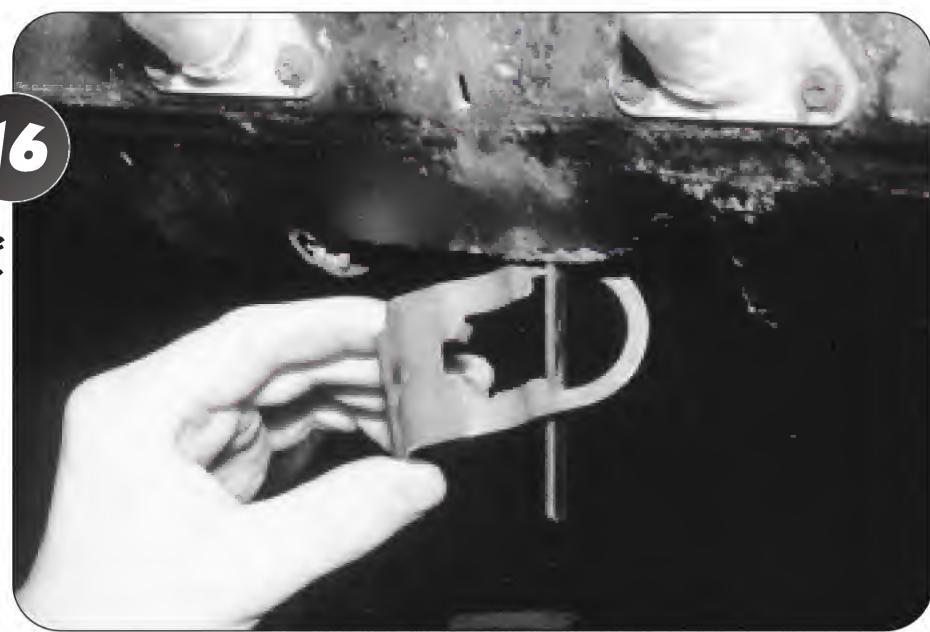
**SRi and Tech Train Productions are
the automotive specialists - your best
source for automotive tools,
manuals, and videos.**

[Click here for more information](#)

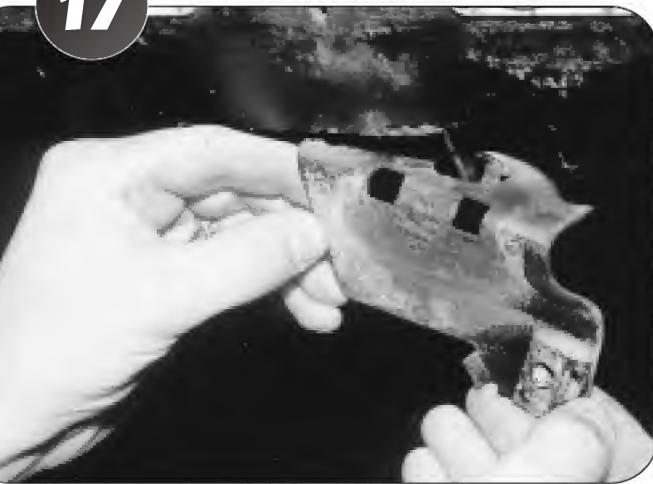


16

**Next install the
retaining clip.**



17



**The bracket and the latch bracket clip goes
on next.**

18



Using the same 8mm socket, reattach the latch.

19



**Now test the lock. It is a smart idea to
check if the lock works before the
trunk is closed. To do this, simply
take a screw driver and put the latch
in the locked position. Turn the key
and see if the latch works.**

TNL



The
National
Locksmith



Software Solutions

With computers becoming an ever increasing necessity in our business and industry related software becoming more plentiful, it's hard to imagine how we operated without either. Somehow we survived, but that was then and this is now. To compete in today's marketplace, it's a must to have a computer for inventory control, accounting, record keeping, creating master key systems, code retrieval, and much more.

A special note is in order here: With .005 pins you can approximate pin lengths to within .002, and with .003 pins to within .001. This program displays the correct pins to keep the stack heights to within those same tolerances. Because of this, your cylinders will work well with universal pins as well as with originals.

To print the chart on paper, just click on the Print button. Or pin the cylinder directly from an enlarged view on the screen.



To cross-key a cylinder, type in the change key combinations separated by spaces. The chart will include the extra master pins needed to cross-key the cylinder.

For Corbin and Russwin applications, you can display the pins needed for small plugs, large plugs and master ring cylinders. Other brands such as ASSA, Keymark, National, and Weslock have variations for different sized plugs or cylinders as well.

You can even import a list of combinations to the program from an

ASCII text file and display the charts sequentially or send them to your printer automatically.

Additional features: You can store a selective master key for any master-keyed job as well. Store as many different jobs as you like, each with its established master and control key.

PIN is a Windows-based program that works equally well on Windows 3.1 or Windows 95.

For more information contact Blackhawk at 970-882-7228.

HPC CodeSource®

There is no need to have extensive computer knowledge to run HPC's family of Locksmithing Software. These Windows® based software programs are simple to use providing easy to understand icons, drop down menus, keyboard shortcuts, and comprehensive Help files.

HPC's CodeSource® is a comprehensive, user-friendly code retrieval program. It has a database of more than 2 million codes that can be accessed quickly and easily in a variety of ways: by code number, Blitz® and Punch® code card number, CodeM ax® DSD number, complete micrometer measurements, multiple key blank choices, cutter and punch numbers, jaw usage, keyway graphic, and all pertinent information about the specific code and code series as well as providing space for your own notes. CodeSource gives you the option to print the screen, download directly to your CodeM ax or open KeyChoice®.

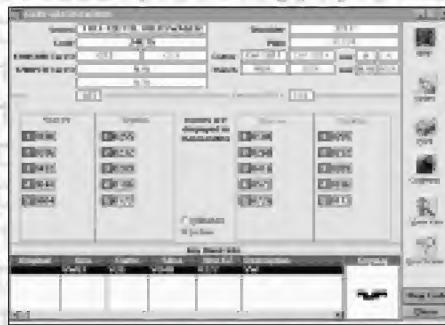
KeyChoice® is a database of thousands of key blanks that allows you to sort, search, add, and update information with point and click simplicity. You can sort and search by original and substitute key blank number as well as by



The
National
Locksmith

description, or by your hook numbers. You can also sort and search by CodeMax®-DSD number or 1200CM B and Punch code card numbers. At the top of the screen is a graphic of your selected keyway that assures you of proper blank selection.

HPC's MasterKing® creates superior master key systems quickly and easily in many different ways. MasterKing contains a database of more than 100 lock types from more than 50 manufacturers including interchangeable core. You have the option to accept or edit manufacturer's specifications including MACs, progression steps, maximum number of chambers, and shortest/ longest pins to be used. Choose between total position progression or rotating constants. In list format you can create specific numbers of change keys and master keys at every level. In page format every chamber is progressed giving you change keys, block masters, column masters, row masters, and page masters. MasterKing supports crosskeying and allows you to manually enter existing systems and custom hardware. You have the ability to search by bitting, key symbol, or description. MasterKing interfaces with HPC's KeyTrail and allows you to download systems directly to the Codemax.



KeyTrail® gives you the ability to manage all of your keys, the people that hold them, the locks they open, and the locations of the locks. This software keeps track of the duplicating information for all of your keys and locks (door locks, file cabinet locks, padlocks, etc.) whether they are installed or not. KeyTrail does all of this from one screen, including tracking groups (rings) of keys. KeyTrail also allows you to import or export information. It has an impressive security system and allows you to generate optional work orders to track cylinder installation and key

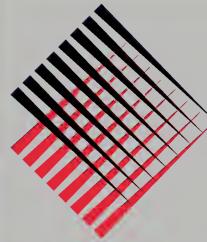
duplication. KeyTrail's built-in log stores every transaction and allows you to print them out, as well as countless other reports. KeyTrail® supports interchangeable core (IC) systems and can interface with HPC's CodeMax.

Whether you have an HPC CodeMax or not, the HPC family of Locksmithing software can create an all-encompassing key producing/tracking package for you. For more information or free demo disks contact your authorized HPC distributor or HPC direct at 847-671-6280. or www.hpcworld.com.

INSTA-CODE

The National Locksmith released its new code software, INSTA-CODE in April of this year. This easy to use total code program contains many features to help benefit the locksmith. Some of the features include: unlimited installations in all computers owned by your shop, powerful search capabilities, ability to search partial bittings, picture of the cut key, and thousands of different code series.

The INSTA-CODE program allows you to print out any HPC 1200CM



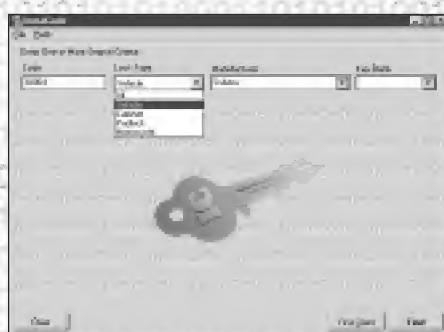
STRATTEC™

The world's largest
producer of
automotive locks
and keys.

[Click here for more information](#)



The National Locksmith



card with the click of a button. All you need to do is look up the code and then press the Print Card button. The card can then be printed on regular printer paper, cut out, and used in the key machine.

The customer tracking feature allows you to keep a database of your customers. Important details such as VIN number, code, address, phone number, etc., can be saved for future reference. Customer provided passwords can even be used for future authorization for keys. This is a great way to ensure repeat business.

System requirements to run INSTA-CODE include Windows 3.1 or later, 486 or better, 20MB or available hard drive space, minimum 8MB RAM, for optimum performance 16MB RAM, Windows supported printer, mouse, or pointing device.

Demos are available for free via e-mail at NATLLOCK@aol.com, or through the mail for \$5 shipping and handling.

For more information call 630-837-2044.

Locksite® by Locksoft

Locksmiths are joining the many other businesses who advertise on the World Wide Web. LockSite® by Locksoft is the solution. Designed to get the locksmith on the web quickly and easily, it offers a group of pages for the site describing various aspects of locksmithing - home security, high security, automotive locks and safes to name a few.

To use, simply load the LockSite® program on your computer and begin by entering identifying information such as: business name, e-mail address, telephone number and fax number. Next click a few check boxes, to indicate the specific services you offer - alarms, automotive, high security, emergency service, etc., and then click on check boxes to specify which brands of high security locks you service.

A built in text editor allows you to compose a page of information to personalize the site. Some have chosen to use this page for the history of the company, credentials of staff members, or business philosophy.

Other customizing touches are easy to perform as well. These include adding the company logo to the welcome page, and changing the background of the pages.

When all the customizing is complete, it's time to upload to the area available from the Internet Service Provider (ISP), and the site is online.



Locksite® is a product of Locksoft, Inc., developers of computer solutions for the lock industry. Technical assistance and customer service is available from:

Locksoft Inc. PO Box 129
Hastings, Nebraska 68902-0129
Phone: 402-461-4149
FAX: 402-461-4359
Email: 71165.3426@compuserve.com
Web: www.locksoft.com

Treskat USA Corp. CodeMaster

Buying a code program is a big investment so it's important to know the differences between brands before you make up your mind.

Of course the first question that comes to mind is quantity: "Who has the most codes?" The answer may surprise you. Of all of the nationally advertised code programs, each of them provides all the real codes you'll ever need. But while quantity is an important measure you must also consider the quality of the software itself.

At Treskat, software for locksmiths is our only business, so we spend 100% of our time working on software. As a result, only Treskat software offers more than 40 important features and services that other programs do not.

For example: CodeMaster® is the only full featured software that can be economically and conveniently used on tiny palmtop computers that will fit in a shirt pocket. That's important because as prices continue to fall it's just a matter of time before every locksmith will want to own a palmtop. Buy the wrong brand of software now and you'll be out of luck when it comes time to buy yours.

What would you do if your computer is unavailable? Only CodeMaster users get free lifetime membership to our 24 hour CodesOnCall® hotline. Best of all you don't need a computer, or modem, or any special equipment. A touch tone telephone, even a cellular phone, is all you need.

Another exclusive is our EZ-Pay plan where users can purchase CodeMaster in 10 monthly installments of 39.90 each. There are no interest charges, no applications to fill out, and every locksmith, regardless of credit history, qualifies.

At our Internet site (treskat.com) users can download the newest CodeMaster program and data files, for free, 24 hours a day. So what? you may ask. Well even though anyone on the Internet can also download these files the fact is they will only work on computers that are already licensed to use Treskat software. Other code programs can't do this for their customers, but CodeMaster users can. And it's free.



Palmtop computers, CodesOnCall, EZ-Pay, free Internet downloads and 36 more exclusive features that CodeMaster and only CodeMaster can provide.

For more information and a free demo call 1-888-TRESKAT or 1-407-870-9696. **TNL**

Pet Peeves of the American Locksmith

by Tony Blass

A wise philosopher once said: "To err is human, to complain about it is simply divine." That highly intuitive world famous philosopher was... me.

The following is a listing of "Pet Peeves Of The American Locksmith." These peeves were carefully compiled from an extensive survey where I interviewed only the most tender, delicious, juicy, corn-fed locksmiths available. The results were tabulated by an accountant from the firm of Price and Waterhouse whose only social life, beyond his job, consists of reading the National Enquirer to his goldfish.

OK, OK, there was no survey. These peeves are just my opinion. But if the situations on this list don't tick you off, then either you haven't been working as a locksmith long enough, or you are exceeding the recommended dosage on your medication.

I'm sure, however, that these peeves are shared by my locksmithing brethren across the country and around the world for that matter. This article therefore, is our chance to let off a little collective steam. If I can save one poor unsuspecting customer from having a plug spinner lodged in one of his nostril's after he says, "Gee, the guy on TV would have had that lock opened by now," then my purpose here will have been achieved.

Peeve Number 1

You've just finished changing the locks on a house and you've given the customer the number of keys he requested, when he says to you, "Oh gee, could you make me one more key?"



Of course your van is parked so far away that you needed a guide and eight pounds of freeze dried food just to get to the customer's house from your parking space.

I sometimes respond to this extra key request by saying, "Sure, I'll make you another key, but if I don't return, please contact my family and thank them for the wonderful life they've given me."

Peeve Number 2

Locks that have more parts than the Space Shuttle Columbia, strategically designed so that you must dismantle them down to the absolute last molecule in order to change the keys. You would think the national security depended on preventing someone from rekeying this lock.

When you attempt to put these locks back together, you find that two hands are not quite enough, and therefore you must operate a pair of vice gripes with your tongue and turn an Allen wrench with your feet. As you are doing this you can almost hear the designer of the lock saying to himself, "I'm sure glad they didn't discover

that forged engineering degree I used to get this job."

These locks were obviously designed by someone whose wife ran off with a locksmith and he has a bone to pick. This type of lock causes you to have day-dreams where you meet the designer of the lock in a dark alley and give him a graphic demonstration of how dangerous the Heimlich maneuver can be, if performed by a locksmith who has had way too much coffee.

Peeve Number 3

You only get the call-backs to fix something on a job you did, when the job is in such a remote spot in the county that you need an all-terrain vehicle, a passport, and a book of useful phrases to get there. The reason for the call-back is usually due to a malfunction of the customer's cerebral-cortex rather than lack of locksmith's workmanship.

The customer may be trying to insert the supposedly defective key while holding it upside down. Or he may be trying to put it into the doorbell button instead of the keyway. Or he might even be at the wrong house altogether.

Peeve Number 4

This pet peeve should probably be number one. It is the customer who stands there watching you work. Granted there is a natural curiosity about what a locksmith does, but if a customer is watching you work he is probably lacking in one over-all category. He has no life.

To remedy this problem, I would suggest that the customer start



acquiring a life slowly by taking up origami or starting a Yatzee league, and then working their way up from there. But for pete's sake, leave the poor locksmith alone. There are essential parts of his job that can't be done with someone watching, such as mumbling and swearing to himself while he is working.

The most treasured words a locksmith can hear is, "I'll just go away and let you do your thing," even if these words do cause him to check and see if your thing is done.

Some customers watch you work so closely that you can actually feel chin-to-shoulder contact. You want to turn to them and say, "Would you like me to put a pillow on my

shoulder in case you want to take a nap while I'm working?"

Even those that stand a prudent distance back can be aggravating because they usually can't even see what you are doing, and are simply staring at the back of your head.

Although I am too much of a coward to actually say anything to the customers about this, there are other ways of dealing with this situation. If you are working on a house lock and the customer won't leave you alone, you can turn to him and say, "Is that smoke I smell?" This will usually buy you at least a few minutes of peace.

Another line that will buy you some solitude is, "I've been trying to shake this darn virus for a month. Ever since I got it, my whole left side has gone gimpy on me. I hope it's not contagious!"

Strangely, the on-looking customer can usually sense when you are about to finish up, because when you are ready to present the bill, this same person that you thought you would probably have to have surgically removed from your shoulder, has now apparently disappeared from

the face of the earth. You eventually find out that he left because he thought he had enough time before you finished up to rebuild the transmission on his neighbor's car, or take a quick trip to Europe.

Peeve Number 5

People who get locked out and tell you to meet them in front of a store or by their car, then they do their Jimmy Hoffa imitation by completely disappearing, doing everything within their power to avoid hooking up with you.

"Oh, I saw you drive by in your well marked van about twenty times looking for me, but I wasn't sure if that was you, so I didn't say anything," they will say cluelessly.

Peeve Number 6

People who complain about your prices on the phone and then somehow talk you into giving them a 10 percent discount because they are middle-aged left-handed Lithuanian-American. When you arrive at the job, you find that they live in a huge house on top of a hill with a view so expansive you can see all the way back to the last ice age. They are



**ASP - Your Auto Service
Center for the World**

[Click here for more information](#)

obviously so well off that they could easily afford to buy every last thing you own just to have something to put in the piñata at their child's birthday party. They needed that 10 percent discount about as much as Elvis needed that last jelly donut.

Ordinarily though, I'm ready and prepared for people who try to get me to lower my prices. If someone says over the phone, "Forty-five dollars for a lockout! Can't you do any better than that?" My response is always, "Yes, I could charge fifty-five, but I don't want to take advantage."

Now don't get the impression I am completely heartless. If someone sounds particularly pathetic I will sometimes do the job for almost nothing.

Such as, if they say, "I don't really have the money right now to pay you to get my kid out of the trunk of my car, but I promise to get it somehow."

Peeve Number 7

Of course there are the calls that require you to usher the customer into the twentieth century. I'm talking about the calls in which the customer will say to you, "Fifty dollars to come

out and change a lock? The last time I had this done it was only seven dollars and twenty five cents."

To which I sincerely respond, "I understand, but since the invention of the internal combustion engine, we now have to add gasoline to our list of expenses."

Peeve Number 8

There is a similar peeve that bothers some locksmiths, but doesn't bother me at all. In fact, I sort of like it. It is the situation in which you are out on a lockout and you open the lock in just a few seconds, which prompts the customer to say, "You get all that money just for doing that? You are really expensive!"

The customer is never quite sure how to respond when they see a dreamy look come over my face and I say, "Oh come on, you're just saying that to make me feel good."

Peeve Number 9

Days when all the jobs come in at the same time... during the last hour of the day. The first three quarters of this type of day is so slow that I will actually consider vacuuming out my van before dust-bunny mating season sets in. Or maybe I will update my automotive keyblank selection, since the last update coincided with the introduction of the automatic transmission. Nah, I can do that later.

On the positive side, these slow days give me a chance to look on the wall and realize it might be time to renew my state locksmith license, since the one I am looking at was signed by Governor Ronald Reagan. I also notice that my locksmithing Bond Certificate was issued when \$200.00 was a lot of money to be bonded for.

Finally, at the end of the slow day, just as I am sitting down to do something useful, the phone starts ringing off the hook. It's as if there is some air-borne virus causing a sudden epidemic of lets-get-dopey-with-keys.

Suddenly everybody in the county has locked their keys in their car, or house, or accidentally mailed them off to the Pope, or had them swiped by a crazed bald eagle on an overdose of hair tonic, or some other lame excuse.

You feel like asking these customers, "Why couldn't you have called earlier when I had nothing better to do than become the first person in history to actually rotate the tires on his desktop scale-model corvette. It took me an hour and a half just to get that tiny little car-jack working properly."

Peeve Number 10

Lockout customers who watch you while you are picking their lock and ask, "Is this going to hurt the lock?"

I usually inform them that it's nice of them to have concern for the feelings of their lock, but since it is an inanimate object, it has no central nervous system and therefore cannot feel pain or hurt as we know it.

Bonus Peeve

People who have you stamp "Do Not Duplicate" on their keys and then call up angrily a few days later and complain, "Hey, I can't get these keys duplicated anywhere!"

This actually happened to me. I guess I should order a new stamp that says, "Do Not Duplicate Unless Requested To Do So." **TNL**



**We have it all.
Quality,
Value,
& Service.**

[Click here for more information](#)

About the Author...



Tony Blass before subscribing to The National Locksmith.



Tony Blass after only two months of reading The National Locksmith.



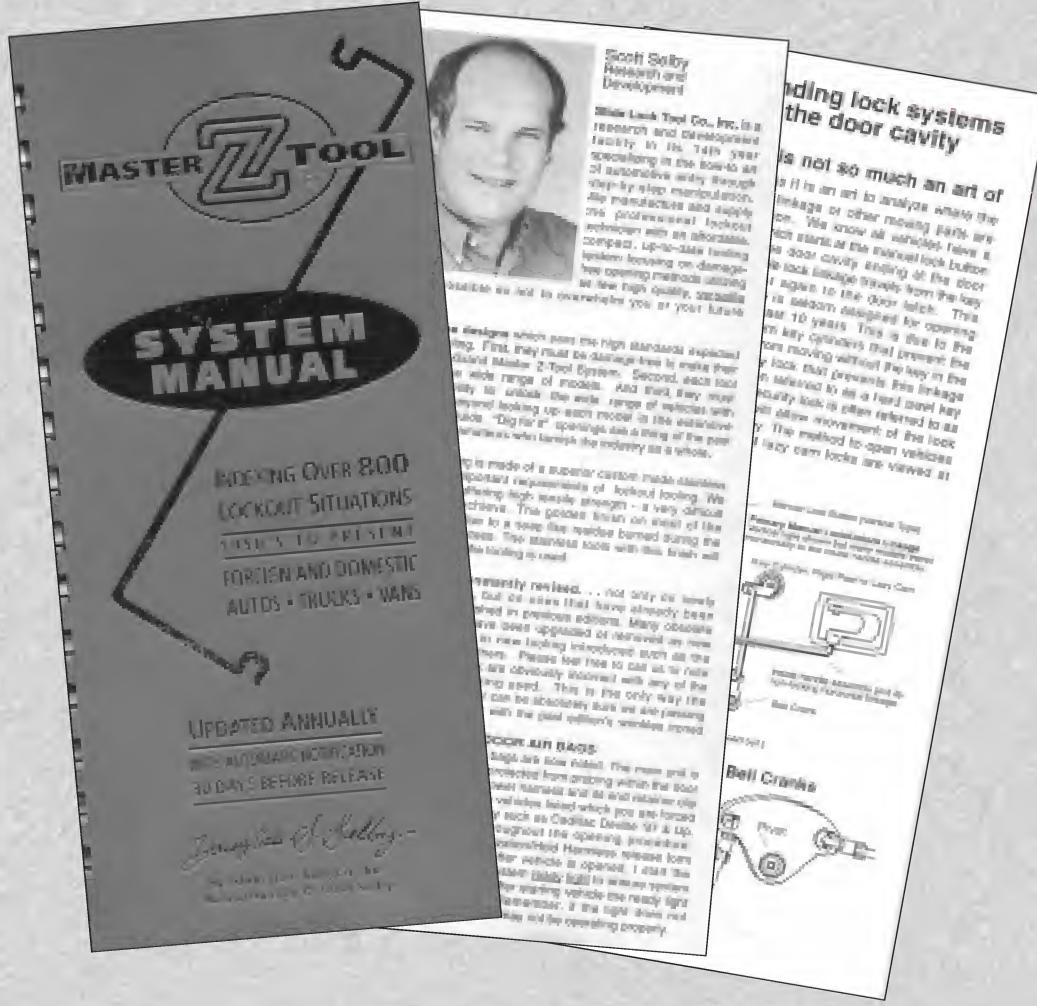
A Monthly Review of
Technical Manuals

In its 15th year specializing in the how-to art of automotive entry through step-by-step manipulation, the Slide Lock Tool Co., Inc. specializes in automotive lock-out tools and manuals. Slide Lock recently released its 1998 10th Edition Manual of auto lockout procedures.

The 1998 10th Edition System Manual covers over 900 lockout situations on foreign and domestic automobiles from the 1950s to present. The book is spiral bound in a 4-1/4" x 9-1/2" page format.

The manual is updated annually not only on newly introduced models, but on ones that have already been researched and published in previous editions of the manual. Many obsolete illustrated methods have been upgraded or removed as new knowledge is gained or as new tooling is introduced. The manual is a companion guide for use with the Z-Tool car opening tools designed and developed by Slide Lock.

1998 10th Edition System Manual, by Slide Lock Tool, Co., Inc.



The manual organizes and assigns each and every specialty tool for each particular model letting you know when, where and how to use each tool. Look up the vehicle in the extensive alphabetized index and refer to its assigned tool and corresponding opening method.

The proven step-by-step methods supply clear, detailed illustrations and even the position and motion of the hands are illustrated.

The Vehicle Index Guide is not only an alphabetical listing of makes and models referring you to appropriate opening methods, it is also where you'll pick up any helpful hints and/or variances from the standard instruction page assigned.

Suggested dealer price for the 1998 10th Edition System Manual is \$47.50.

Slide Lock Tool Co., Inc. is located at 1166 Topside Rd., Louisville, TN 37777. Phone: 800 336-8812 Fax: (423) 577-5936.

The Bookmark

Sample Pages: 1998 10th Edition System Manual

26A

NON SHIELDED, FOUR DOOR
CAMRY / INFINITI
AND OTHERS

Always refer to indexed vehicle guide before starting.

1 **NOTICE:** There is a white plastic guard added to the Camry models produced since April 1995. See Index for variations of this type of opening method.

Place thick end of Flex-A-Wedge, between window glass and weatherstripping.

Note: The bottom lock linkage can be seen by lifting up the rear door handle and looking through the forward bracket hole.

* Insert SMALL END of Z-Tool at the far left side of rear door's window.

• • • • • • • • • • • • • • • • • •

Place "Mini Box Hook" on the LOWER linkage while looking through door handle bracket hole.

Note: You must drop the door handle before you push the linkage to rear of car.

2 **In one motion,** twist handle clockwise (to bind hook onto linkage) as you leverage the linkage to the REAR to open.

26B
Mercury Villager
AND
Nissan Quest Vans

Always refer to indexed vehicle guide before starting.

1 **NOTICE:** Requires very short philips screw driver or an allen wrench with or without phillips head and the Blue End of your Frameless Window Tool.

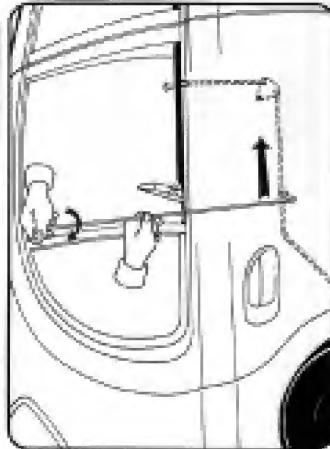
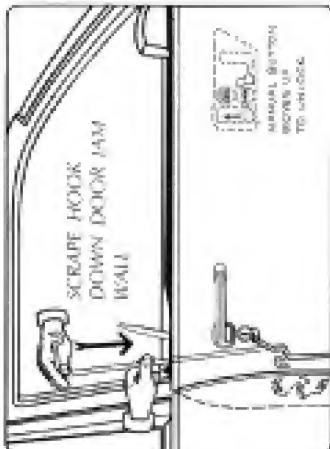
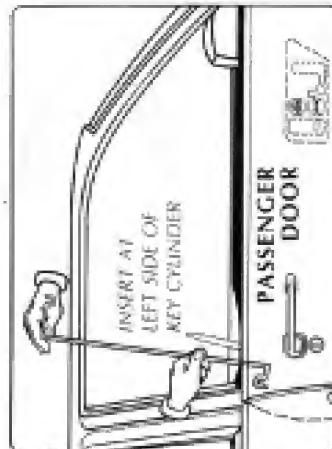
Insert thick end of Flex-A-Wedge at top left corner of window at sliding cargo door as shown. If flat side of wedge is facing you the gasket will also wedge cleanly.

* Insert unattached blue end of Frameless Window Tool from top of glass (as shown).

• • • • • • • • • • • • • • • • • •

2 **In one motion,** push down hard and twist hard clockwise to open latch.

Note: Remove philips head screw where latch mounts through glass. The window can now be opened just enough to reach in to operate the manual lock lever by hand.



10

ASTRO & SAFARI
Before starting read all four steps.

Always refer to indexed vehicle guide before starting.

1 **NOTICE:** This system requires accurate use of the #2 depth guide in conjunction with staying close to the window frame, an item in this indexed guide available for manipulation. Contact analogies for 100 is possible to allow full travel of lock linkage. Do not ever go deeper than the #2 depth guide. If it stays longer between the two you can hit up front door handle and weatherstripping.

* Insert shaped SMALL end of Z-Tool down into limited access (located as far left as possible (ending as shown)).

• • • • • • • • • • • • • • • • • •

2 **PINCH OFF AT #2 DEPTH GUIDE** and carefully insert tool until hook barely clears the window bottom. Even after standing tool straight up the #2 depth guide should still be well above the weatherstripping by as much as 3 inches.

It is very important to stay as high as possible to execute the 1/4 turn at the next step and still remain above the lock linkage.

• • • • • • • • • • • • • • • • • •

3 **Make 1/4 turn counter-clockwise (so handle of tool faces away from window).**

The pinched #2 depth guide should still be 2-3 inches above the weatherstripping after 1/4 turn is complete.

Push tool down no deeper than the #2 depth guide so the hook falls over the latches left end of the lock linkage.

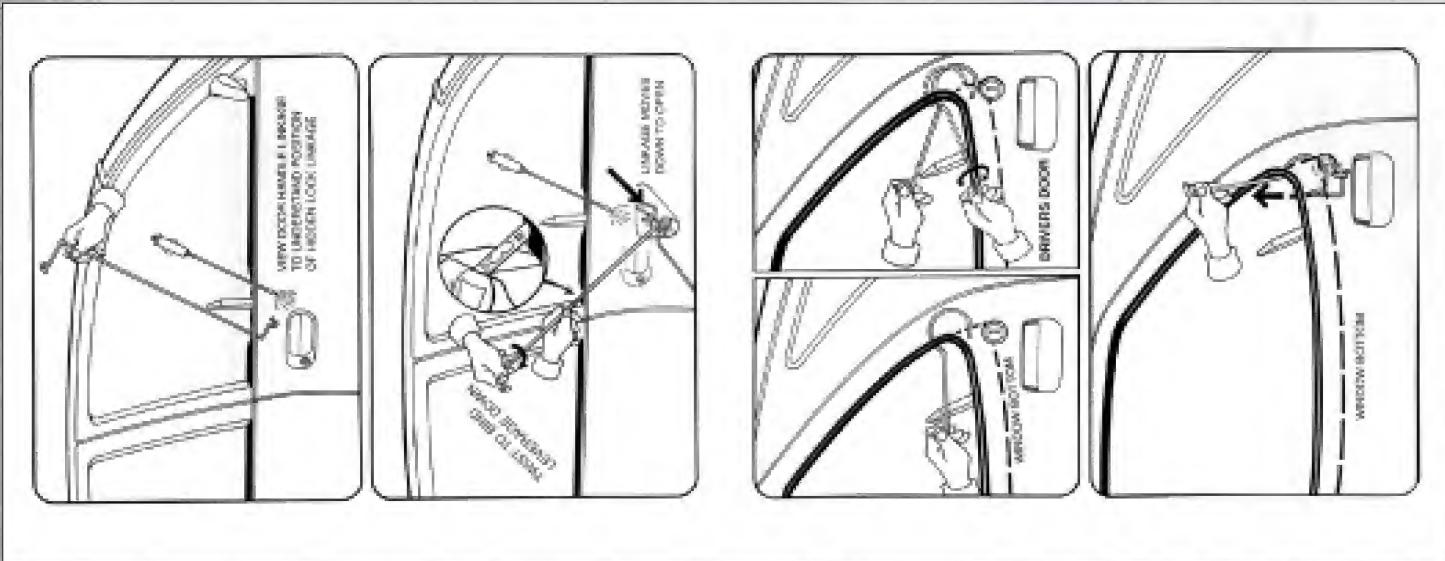
Note: The linkage feels firm/solid because it's connected at its strongest point. Often you are on in but do not know it.

• • • • • • • • • • • • • • • • • •

4 **In one motion,** twist handle clockwise (to bind hook onto linkage) as you leverage the linkage forward for you.

Sometimes the shaft of the tool will completely bow to the rear of van and the tool's spring action will throw the linkage forward for you.

Personal Note: This is one of the more difficult vehicles to open. It is tough to learn first few times and requires basic skills learned from p.6, and other variations of horizontal opening methods.



Mazda Millenia Moving Various Bell Cranks

Always refer to indexed vehicle guide before starting.

1

- Place thick end of Flex-a-Wedge between window glass and weatherstripping.
- Insert **LARGE END** of Z-Tool directly in line with key cylinder location.

- Push tool down into door cavity to the #3 depth guide.

2

- Make 1/4 turn counter-clockwise to swing under the bell crank.
- Lift tool from under bell crank to open.

Serpent Tool™

Always refer to indexed vehicle guide before starting.

1

- Place thick end of Flex-a-Wedge between window glass and weatherstripping.

If space allows, insert loop directly into door cavity.

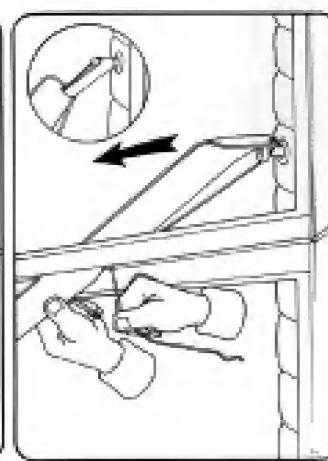
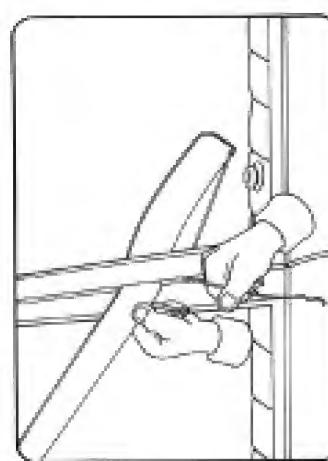
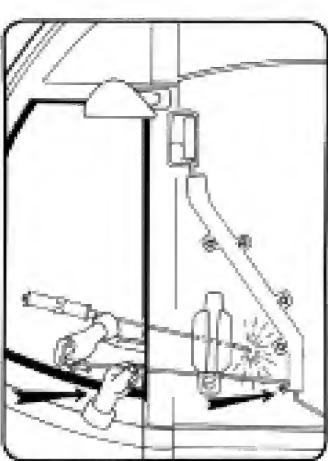
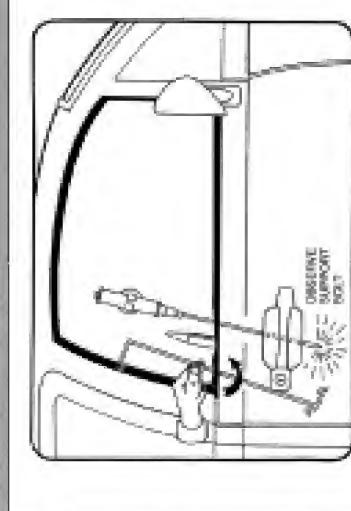
2

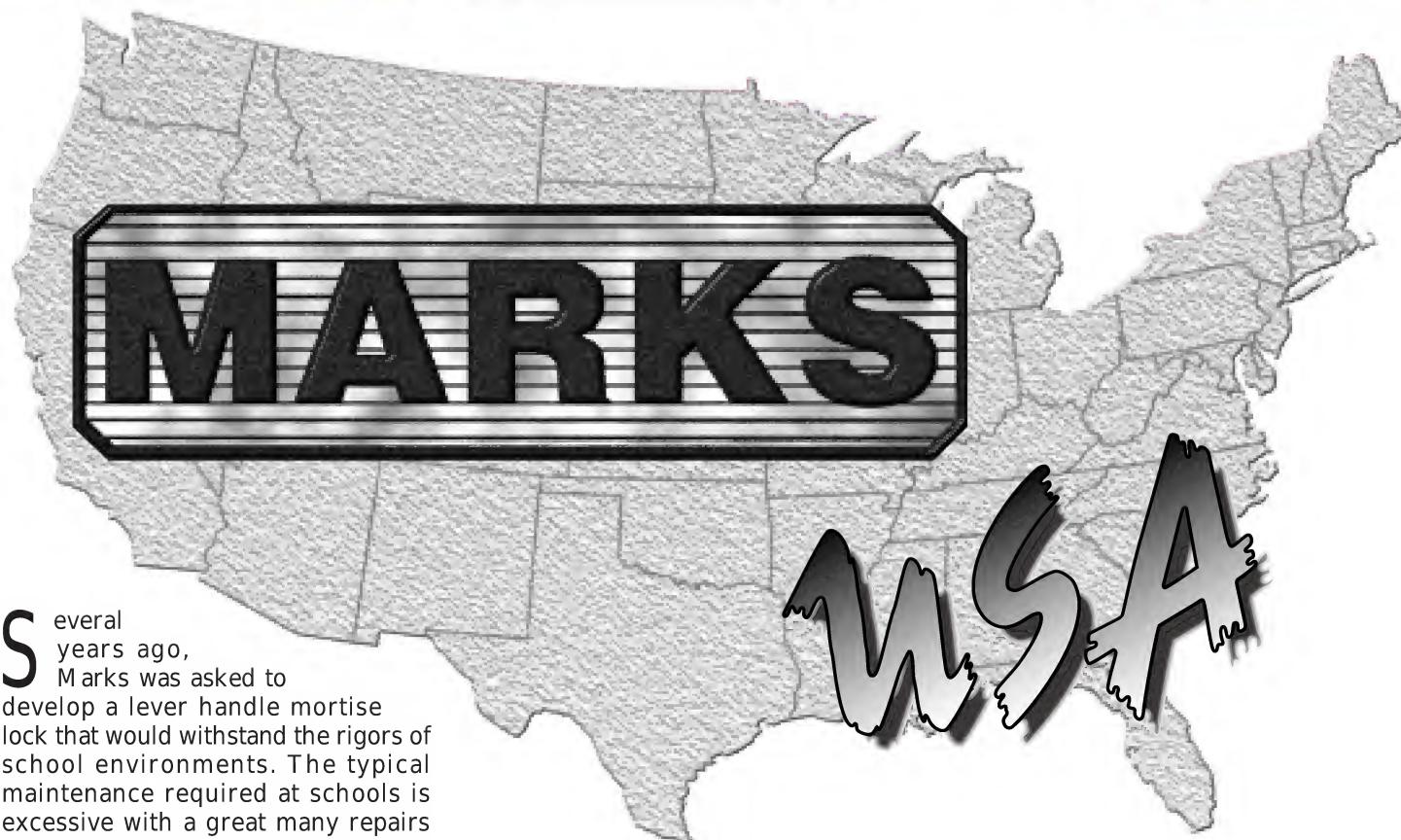
- If only a small gap is available, insert tip first down into door cavity as shown being careful not to mar, chip or scratch paint finish. Rotate tool so tip spins around window bottom ending with tip on other side of glass.

2

- Tool must be deep enough to clear window glass bottom before rotating the working tip towards target location.

Contact base of manual lock button and lift to open. Be persistent as many models assigned only have a small exposure available to contact.





Several years ago, Marks was asked to develop a lever handle mortise lock that would withstand the rigors of school environments. The typical maintenance required at schools is excessive with a great many repairs required for locks abused beyond the limits of ANSI grade 1 locksets. The specific requirement was to create a lockset, which, if abused, would require only the minimum of repair, and with the most inexpensive parts. There was also a preference that the lock body, for the most part, remain in tact. (See photograph 1).

We found that the greatest damage to mortise locks was caused by excessive lever torque and impact. Internal lock parts were breaking and the two-piece spindles holding the levers were fracturing at their junction. The result was a failure of security, since, after the spindles broke, they could be pushed clear of the hubs allowing manipulation of the inside hub to gain entry.

Our approach to this challenge was as follows:

1. Eliminate the use of swivel spindles.
2. Strengthen the internal components of the lock body.
3. Provide additional parts to resist torque.
4. Design a "weak link" to be inexpensive and easily replaceable.
5. Maintain the integrity of the lock body.
6. Prevent security failure.

We accomplished the above requirements by first employing a trim

system utilizing two independent spring loaded "floating" spindles, not connected to each other; each entering the hubs separately. The spindles locate by butting up against a separator placed between the hubs in the lock body. The springs and spindles reside in the high strength solid stainless steel lever handles which are connected to the exterior and interior escutcheon plates. The plates through-bolt to each other with the middle through-bolt passing through the lock body. This system enabled the trim to self-align, holding the levers in place without the necessity of connecting them to the spindle.

The addition of the separator between the hubs, a thick steel disc, was not only to maintain the spindle positions, but also to prevent access to the inside hub. Even under the most

severe abusive attack, even when the trim is destroyed, the separator is designed to prevent access maintaining the lock's security. (See illustration A).

Several internal parts of the lock body were redesigned to be made of hardened steel; namely the hub locking arm and the plate to restrict hub rotation. These parts were made to protrude by 1/8" outside the lock body. An exterior cam was designed to fit over the outside spindle and butt against the protruding portions of the hub locking arm, the rotation restrictor plate and the middle through bolt. The purpose of this design was to prevent lock damage due to over rotation of the internal hubs when subjected to infinite torque. The lockset is normally supplied with only the exterior cam

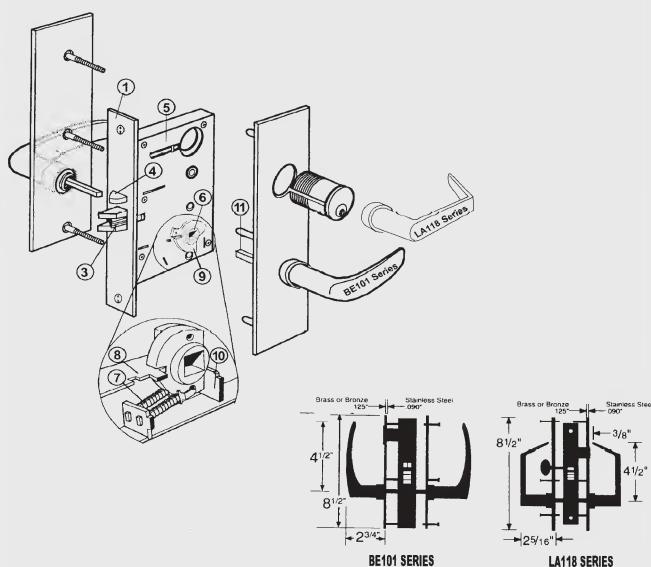


1. Newly designed Marks LA and BE mortise locks to withstand even school abuse.



A. The separator is designed to prevent access maintaining the lock's security.

BE101/LA118 SERIES



Lock Specifications:

5 Series (2-3/4" backset)

1. Lock Front: Adjustable bevel steel backplate .125" x .125" x .060" thick. Cover plate .060" thick, with .030" thick of security.
2. Deadbolt: Stainless steel w/ hardened roll pin, 1" throw
3. Latch: Solid stainless steel with steel antifriction latch levers, 3/4" throw (reversible)
4. Auxiliary deadlatch: 1/2" throw, non-handed design (locking not necessary)
5. Case: Stamped steel .060" thick.
6. Hubs: 5/16" on square, sintered steel, copper infiltrated with solid steel security separator.
7. Independent Exterior and Interior lever support springs.
8. Hub Lock Arm: Case hardened steel .125" thick with tab extension to limit exterior cam rotation.
9. Exterior Cam (engages hub follower and cam stop): Case hardened steel .125" thick engaged by outside spindle.
10. Cam Stop: (to limit lever travel) Case hardened steel .125".
11. Spindles: Independent spring-loaded spindles.5-1/6" square.

used on the door's exterior. An interior cam, designed in a similar fashion, has also been produced for those environments where vandalism is prevalent and even the interior levers, although unlocked, experience excessive torque. The "weak link" therefore became the inexpensive spindle, which, when subjected to excessive torque, will twist and eventually break without causing damage to any other part of the lockset. (See photograph 2).

The resultant lockset has proven to answer the requirements of many school environments. We, nevertheless, continue to make improvements, anticipating more severe applications in the future.

The above development program was undertaken by the Custom Lock Division. The activities of this division involve assessing specific lock requirements outside of the standard product line. When approaching a situation where standard products do not accommodate the customer's requirements, Marks will study the feasibility of modifying, redesigning or developing a lock product to meet the needs of the application. Since there are many occasions where even the



The Innovation You Expect, with the Flexibility You Need!

[Click here for more information](#)



highest grade ANSI specifications will not suit the customers needs, Marks has addressed them in this division.

Accomplishments have included not only meeting more rigid service requirements, but also the development of additional specific functions, and the adaptability of lock systems to be compatible with other manufacturers keying systems. The ability to customize locksets, when necessary, has allowed Marks to address many special requirements of institutional facilities.

Marks has recently published a "Facility Lock Guide" to describe

examples of products developed specifically for institutional facilities. (See photograph 3). In it, Marks describes products with properties designed to satisfy the requirements of typical facilities. The publication is an invitation to institutional facilities to view what's been done and initiate new ideas for product requirements. It is this process that has been responsible for the development and improvement of many Marks products.

In addition to the "Guide," Marks invites its customers to test, free of charge, its "facilities" products on

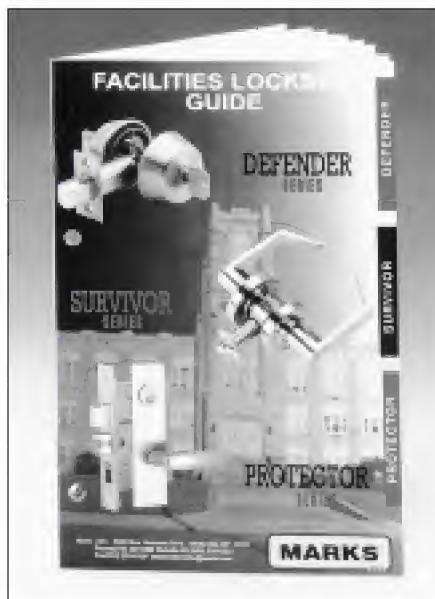


2. The "weak link" became the inexpensive spindle when subjected to excessive torque. A restrictor plate eliminated this problem.



HPC, Inc.
Designing Excellence and
Manufacturing Quality
since 1956

[Click here for more information](#)



3. Marks has recently published a "Facility Lock Guide" to describe examples of products developed specifically for institutional facilities.

their most abused and troublesome doors. The Marks approach is to let the customers determine the products worth and generate their own confidence level. Marks feels that this is the best way to build customer confidence and brand loyalty. Marks continually invites challenging lock applications.

For more information call: 800-326-0233. **TNL**

BEGINNER'S CORNER

The "Bear" Door Security Bar



by
Jim
Langston

The Bear door security bar was developed to provide the ultimate in business and home security that is both simple to install and easy to store when not in use. This 11 gauge, cold rolled steel (2.5mm) bar will protect against forcible entry of any door.

The tubing used in the Bear security bar is 1 inch telescoping into a 1-1/4 inch. The finish is baked-on using electrostatic epoxy powder that gives a superior anti-corrosion, anti-scratch protection.

There are several models of the Bear to choose from that will accommodate just about any door configuration. The Model "A" is for residential inswing single doors 30 to 40 inches wide. Model "L" is for residential outswing doors 30 to 40 inches wide. Model "L" with "C" kit is for size 60 to 72 inch double doors. Model "F" is for commercial outswing single doors, sizes 30 to 48 inches. Model "B" is for commercial inswing double doors sizes 60 to 72 inches.

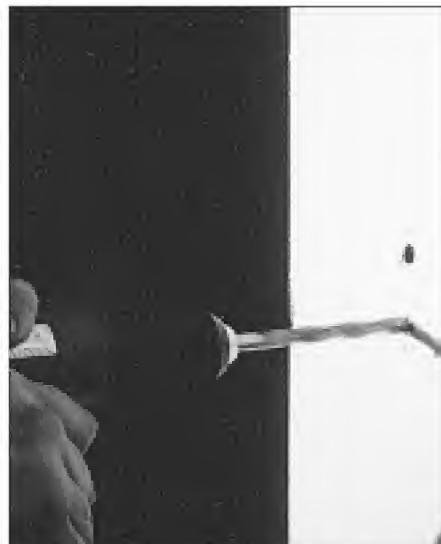
I have encountered several doors that have been burglarized more than once, like the one shown in photograph 1. This customer needed a locking system to prevent his back door from being broken into and the Bear security bar was the ideal solution.



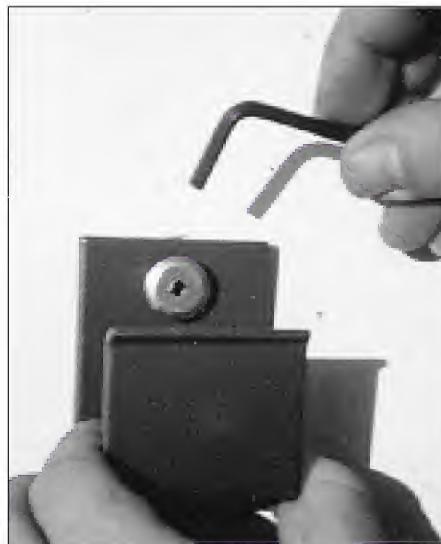
1. This door has been burglarized more than once.



2. The security bar placement is being measured from the top of the door



3. Mounting holes are being drilled with a 1/4 inch bit on the outside and a 3/8 inch bit on the inside.



4. The inside face bolt that secures the mounting bracket is installed.

Continued from page 102

INSTALLATION:

When installing the security bar, the first thing you have to do is determine where the bar is to be placed. In photograph 2, the security bar placement is being measured from the top of the door to where it is to be mounted.

In photograph 3, mounting holes are being drilled. You will need a 1/4 inch hole on the outside and a 3/8 inch hole on the inside. Blind face

bolts are used to secure the mounting brackets. The outside blind face bolt has a square shank under the face. To set the bolt, you will need to place the bolt in the 1/4 inch hole and hit it with a hammer to secure the bolt to the door. Remember, the inside hole has to be a 3/8 inch hole for the inside face nut to fit into the door bracket.

In photograph 4, the inside face bolt that secures the mounting bracket is installed. There is an Allen wrench hole in the face to tighten the bolt with the Allen wrench provided with the unit.



5. With the mounting brackets installed, close the door and adjust the bar to the door width.



6. Place the frame bracket on the door and mark the holes.

**Lockmasters has a
44 year history of
training security
professionals.**

[Click here for more information](#)

With the mounting brackets installed, close the door and adjust the bar to the door width. (See photograph 5.)

Next, place the frame bracket on the door and mark the holes. (See photograph 6.) There are four holes in each frame bracket that must be drilled. Drill the holes for the frame bracket screws using a 1/8 inch drill bit. (See photograph 7.) In photograph 8, the frame brackets are installed.

At this point all that needs to be done is to secure the width adjustment on the security bar. There is an Allen screw on the bottom of the bar that needs to be tightened with the Allen wrench provided. (See photograph 9.) The installation is complete.

Installation of The Bear security bar is simple and straight forward. Once installed it provides a maximum amount of security against outside intrusions, yet allows for easy one hand, one motion removal for egress.

A unique available option for the Bear security bar is a patented residential and commercial hinge adapter assembly. The patented mounting system allows the hinge adapter to work in conjunction with



7. Drill the holes for the frame bracket screws using a 1/8 inch drill bit.



8. The jamb brackets are installed.

the door's existing hinges. The hinge adapters allows the bar to be attached to the existing hinges, making installation a snap. This is a very nice feature especially when using the Bear security bar in a residential application.

For more information, call The Bear Security Systems Inc. at: 1-888-255-3036 or visit their web site at www.thebearbar.com.



9. The installation is complete.

POINT TO PONDER:

If you don't feel comfortable giving your best friend a key to your house, then find a new best friend.

TNL

Major
MANUFACTURING, INC.

Installation Tools

**The
Professionals
Choice**

[Click here for more information](#)

TECHNITIPS

'98 Year-End Prizes!



Grand Prize

Silca Bravo Duplicator



1st Prize

HPC's 1200PCH
Punch Machine



2nd Prize

Mas Hamilton's Auditcon
2100 & Certification Class



3rd Prize

Curtis 2100 Duplicator



4th Prize

SDC Magnetic Lock,
Keypad and Exit Switch



5th Prize

LaGard "Smart
Guard"®



6th Prize

\$500 in All Lock Products



7th Prize

\$500 in ASP
Auto Locks



8th Prize

\$500 in Strattec Auto
Products



9th Prize

Arrow Exit Device
and Mounting Kit



10th Prize

Dewalt Cordless Drill



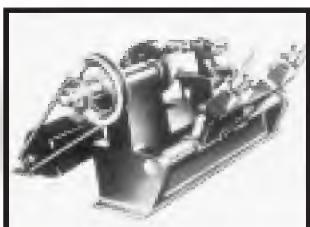
11th Prize

Detex ECL-8010W
Wetlock®



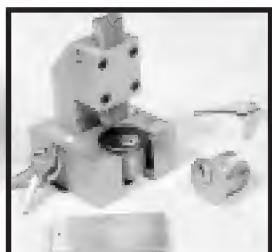
12th Prize

Securitron DK-26
Touchpad and Cpu
Board for Magnetic Lock



13th Prize

Foley-Belsaw 200
Key Machine



14th Prize

Accu-Mark™ Key
Stamping Machine



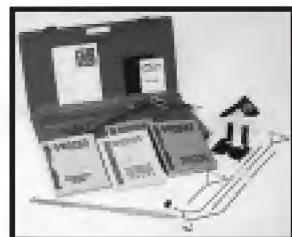
15th Prize

S&G 6120
Electronic Safe Lock

These Prizes Awarded Each Month!

- All Lock Ford or GM Kwikit
- Aero Lock Tryout Key Set
- Strattec Racing Jacket
- HPC Pistol Pick™
- Sargent And Greenleaf 4400 Series Safe Deposit Box Lock
- A-1 Security Products
- Silca Key Blanks (100 Blanks)
- PRO-LOK® Pk 15 Professional Lock Pick Set

- Tech Train Training Video
- Sieveking Products Gm E-Z Wheel Puller
- Major Manufacturing Products
- Slide Lock's "Z" Tool Opening Set
- The Sieveking Auto Key Guide
- Jet Key Blanks (50 Blanks)
- High Tech Tools
- LaGard Combo Guard



16th Prize

High Tech Tools
2500 Pro Set



17th Prize

Slide Lock's
Master "Z" Tool Set



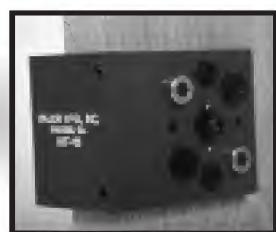
18th Prize

ESP Products Sampler



19th Prize

Baxter J V-1 and
J V-5 Code Books



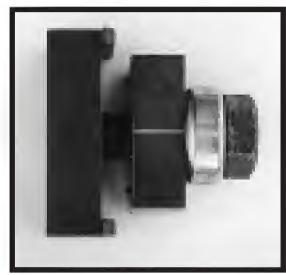
20th Prize

Major
Manufacturing's
HIT-111 Drill Guide



21st Prize

Falle Pick Set From Mark
Bates Associates



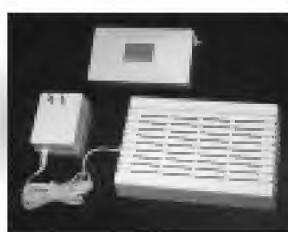
22nd Prize

Sieveking Products
Squeeze Play



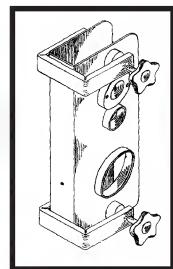
23rd Prize

ABUS Padlock's Marine
Padlock Display



24th Prize

Rodan's AV 100 Heavy
Duty Door Annunciator



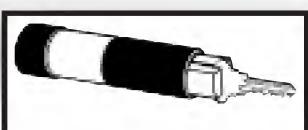
25th Prize

A-1 J-50
Installation Jig



26th Prize

M.A.G. Engineering
Sampler



27th Prize

Framon Impressioning
Handle

Send in your tips, and win!

How To Enter

Simply send in your tip about how to do any aspect of locksmithing. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Write your tip down and send it to:

Jake J. Jakubowski, Technitips Editor,
The National Locksmith,
1533 Burgundy Parkway, Streamwood,
IL 60107-1861 or send your tips via
E-mail to: Natlock@aol.com

Every Tip Published Wins

If your tip is published you will win one of the monthly prizes listed. At the end of the year, we choose winners from all the monthly tips published, that will be awarded one of the fabulous year end prizes. All you have to do to win is enter. By entering, your chances are greater than ever that you will win one of the prizes listed. This is the biggest Technitips prize year ever.

Prizes are arranged according to suggested retail price value.



**The 15
Minute
Safe
Opening
Technique**

28th Prize
Book — 15
Minute Safe
Opening
Technique by
Jake
Jakubowski



ALL LOCK KWIKIT
WINNER:
**Multifunctional
Cylinder**

We have customers that have requested special cylinder keying that will allow certain employees to lock or unlock a given cylinder and other employees to only lock (at closing time) those particular cylinders.

Generally, we do this on Adams Rite style cylinders, but I have found a way to apply the same principal to standard deadbolt cylinders as well. The benefits are obvious when a business owner might have employees who leave later than others and have to secure the building, but have no need to access the building after leaving.

Illustration 1, shows how the plug is modified (cut to the right of chamber for clockwise rotation and to the left of the chamber for counter-clockwise rotation). I recommend that you use six pin cylinders for this application, but the illustration that I'm using here is for a five pin cylinder to keep things simple.

The last chamber is the only chamber that I am using to create the lockout cylinder. The key bitting for the closing key is 4-4-7-3-9 and the bitting for the master or operating

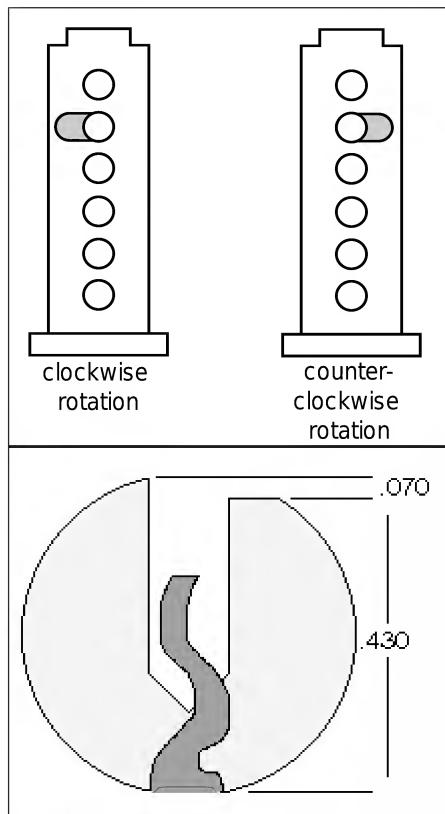


Illustration 1.

A Few Words From Jake...

It's June already and more quickly than I want to think, we're going to be on the downhill side of 1998. To seemingly speed matters up, ALOA is having their convention this month in Nashville, Tennessee! If you have never been to Nashville, you should really try to get there for this convention and trade show. There are more fun things to do in Nashville than you can shake a stick at. You can learn a whole lot at the trade show and then you, your family, a friend or your mother-in-law can enjoy country music, good food, attractions and all the other good stuff that Nashville has to offer.



by Jake
Jakubowski

If you are going to be in Nashville, come by The National Locksmith's booth and say howdy! If you have been a prize winner this year, it would be a good time to stop by the booth of the contributor of your prize and tell them how much you appreciate their support.

Speaking of prizes, as you can see the monthly and year-end prizes for the 1998 Technitips contest are bigger and better than ever before. Not to mention that there are more of them! That means each tipster that submits a tip has a better chance of winning.

However, if you don't jot your idea down and send it in... sorry! No brass ring!

So, y'all git to writin'! Y'all heah me, now?

(both directions) is 8-4-7-3-9.

The depth of the slot that I mill in the plug is equal to a number four master, or top pin depth. In this case I used Schlage depths.

When the close only key is inserted, the number four bottom pin comes up to the bottom of the slot and creates a sheer line that will allow the plug to turn only one way. When the operating key is inserted, the master plug drops into the plug's chamber and allows the plug to rotate in both directions.

Howard Fulks
Oregon



AERO LOCK TRY-OUT
KEY SET WINNER:
**Paddle Handle
Removal**

I was called to open a GM glove box after the paddle handle had been broken. Obviously, the paddle handle mechanism needed replacing, but I wanted to use the old plug in the broken mechanism to keep from having to rekey the new one.

Illustration 2, shows the plug retainer key that I made by modifying a duplicate of the customer's key. As you can see, I cut a slot in the bottom of the duplicate (sort of like a Titan removal key). This allowed me to turn the plug so the notch would align under the retainer when the plug reached ninety degrees from the horizontal. In that position,

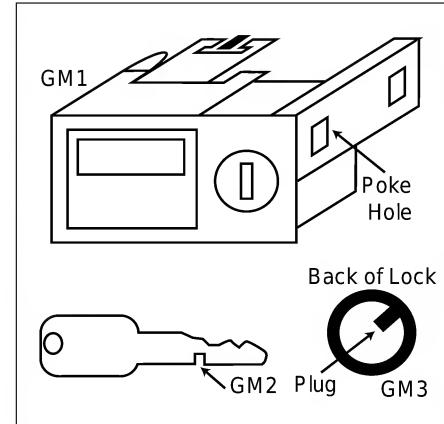


Illustration 2.

retainer can be depressed and the plug removed.

After that it was simply a matter of putting the old plug in the new paddle handle assembly and reinstalling the unit in the glove box.

Raymond M. Conner, III
Virginia



STRATTEC RACING
JACKET WINNER:
Thank You Cards

Getting new customers is important. Turning them into established customers is crucial. I believe that taking the time to write a very sincere and personal thank-you to both new and established customers will greatly improve a business's chances of success.



Illustration 3.

The enclosed computer generated thank you card took me about six minutes of effort and less than a buck for paper, envelope and stamp. (See illustration 3).

I believe this to be a very personal and sincere way of thanking all of my customers for their business.

If you do not have a computer, or a print program to generate your own thank you cards, you can buy a variety of cards commercially. Just make sure to hand write a short message and personally sign each card.

Customers enjoy being recognized, and appreciated, and I think these cards are a great way to do that. And, at the same time make the customer aware that you are an appreciative type of person.

John Dorsey, CPL
Wisconsin



HPC PISTOL PICK
WINNER:
**Ford Temporary
Switch**

When working on Ford ten-cut ignitions, I often find it necessary to remove the ignition switch from the customer's car for a given period of time to decode or repair it. To avoid leaving the vehicle's ignition system in the ON position during that time, I have made the following temporary



ignition switch.

Illustration 4, shows how to take the key from a used or spare switch, grind a ninety degree angle in the tip spacing and when you reinsert the key into the spare switch, the

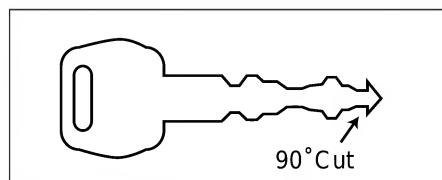


Illustration 4.

switch will trap the key. Now all you have to do after removing the customer's ignition switch is insert the temporary switch in the column and turn the key to the OFF position, thereby shutting down the ignition system.

When you have finished the

medeco®
HIGH SECURITY LOCKS

**The market leader
in locking systems
for security, safety,
and control.**

[Click here for more information](#)

repairs, simply remove your temporary switch and re-install the customer's switch.

Terry Heinricks, CRL, CJL
Canada



**SARGENT AND
GREENLEAF WINNER:
Diebold 180-55
Replacement**

Every once in a while you encounter a safe which is obsolete. There are limited parts available, but the customer insists on keeping it in service. Such is the case with an old Diebold lug door with a 180-55 MP lock that a customer of mine had purchased from the U.S.P.S.. The lock did not have a wheel pack, or back cover in it and my customer wanted me to put the unit in working condition.

I did not have a Diebold replacement wheel pack for this lock and parts are no longer available from Diebold, so I did the next best thing. I fit another lock in its place.

After studying what was left of the original lock and mechanism, I had an idea. I modified a Sargent and Greenleaf 6700 series lock by cutting down the case of the lock and installing it in the Diebold lug door as you can see in photograph A. This photograph shows the lock in the locked position. Note that I have cut away a fair portion of the S&G lock case.



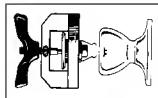
Photograph A.

In order to install the S&G lock, I had to drill and tap 1/4 x 20 holes to accept the cap screws I used to secure the 6700 to the door. The lock was mounted on shims to keep pressure off wheel pack when the case was tightened.

Since there was no cover for the lock, a screw was inserted in the lever to prevent the lever from sliding off the post. A Plexiglas plate was then made to cover the lock mechanism. This prevented anything from entering the lock.

There was a fair amount of modification that went into this lock retrofit. However, there was little option considering parts for this lock are no longer made. The safe has been in service for two years and eight months since I modified the locking mechanism without any problems.

Vincent J. Kane
Pennsylvania



**A-1 SECURITY
PRODUCTS WINNER:
Preventing Dropped
Top Pins**

If you have ever picked a master keyed deadbolt and turned it one hundred and eighty degrees and had the master pins or top pins get trapped in the broaching on the bottom of the keyway, you know what a frustrating experience that can be.

It happened enough to me that I decided to make a tool that would prevent it from happening as I picked the lock. I modified two 5/64 Allen wrenches by grinding them down so they would fit in the keyway. I used the short part of the L as the handle and the long part as the blocking tool.

I ground the long shank of the Allen wrench so that it was flat on one side. Next, I ground the upper right hand corner and the other on the opposite corner. This gave me tools that would fit either a bottom-ward-on-left or a bottom-ward-on-right configuration.

Now when I have to pick one of these pesky plugs, I first insert the proper tool to hold the pins out of the keyway, and then pick the lock in the normal manner.

Terran M elconian
Massachusetts

**ILCO KEY BLANKS (100) WINNER:
Undersized Plug Pusher**

I was asked to rekey a number of deadbolts on an apartment complex. When I arrived at the job site and took the first lock off the door, I found that it was an old Lustre-Line, and although a Kwikset key would fit the cylinder, I did not have a plug follower that would work for this slightly undersized plug.

After checking the complex's storeroom, I found a discarded Lustre-Line deadbolt. I shimmed the cylinder and removed the plug. I filled the chambers in the plug with solder and sanded it smooth.

I used the plug from the discarded lock as a plug follower and rekeyed the rest of the locks.

Jerry Eckhart
Texas

Editor's Note: Jerry, a good solution. However, the next time you find yourself in that predicament try a drill bit (of the proper size, of course). I keep one on my truck and find a piece of dowel rod that will fit the plug and notch one end slightly to fit as needed.



**PRO-LOK PK 15
PROFESSIONAL PICK
SET WINNER:
Vin Identification**

In 1981, The National Highway Traffic Administration and the Department of Transportation, required all automobile manufacturers who sold vehicles in the United States, to use a standard-sized seventeen character Vehicle Identification Number. The most important digit in the VIN is the tenth digit since this is the digit that indicates the model year.

Code	Model Year
E	1984
F	1985
G	1986
H	1987
J	1988
K	1989
L	1990
M	1991
N	1992
O	1993
P	1994
R	1994
S	1995
T	1996
V	1997
W	1998

Illustration 5.

Illustration 5, is a list of the alpha codes that signify the vehicles model year. Cut it out and keep it in your truck as a reference.

Ken Zelten
E-Mail



**TECH TRAIN TRAINING
VIDEO WINNER:
Titan Removal**

You've had several tips about removing Titan cylinders when no key was available. Here's how I accomplish the same task.

First I pick the lock to the ten or eleven o'clock position. Then I insert a tool that I made out of a Titan key blank. (See illustration 6).

Note how the blade is cut down and

Continued from page 110

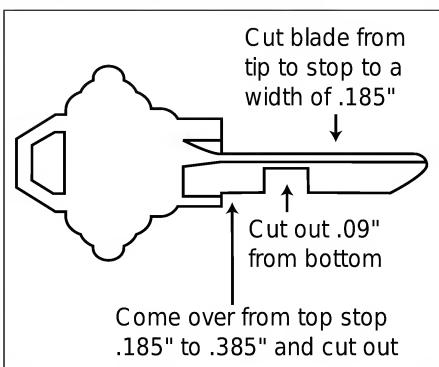


Illustration 6.

where I have placed my index mark on the bottom of the blade. I just insert this tool, turn it to the left and apply moderate pulling pressure and the cylinder comes right out.

Mark Caudill
Texas



SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
**GM Horn Button
Repair**

Inside the GM steering column is a plastic horn tower that protrudes above the compression plate. (See illustration 7).

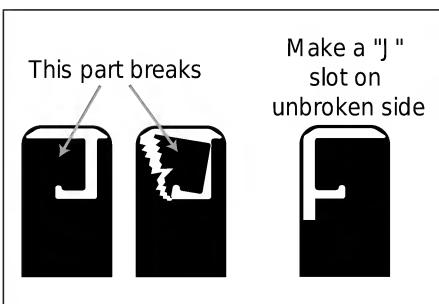


Illustration 7.

It is not uncommon for the horn tower to get broken as seen in the illustration which will not allow the tower to retain the wire from the horn button. When you encounter one of these broken horn towers, you can often effect a repair by filing a J slot (as shown in the illustration) in the tower on the opposite side from the break.

I use a Dremel Tool and a 3/32" bit to cut a slot in the plastic.

Chuck Frazier
California

**MAJOR
MANUFACTURING, INC.** MAJOR
MANUFACTURING
PRODUCTS WINNER:
Schlage T-turn Repair

I've come across a number of Schlage 660 single cylinder deadbolts

where a bind on the lock has caused the tailpiece to break out of the casting on the back of the thumb turn.

I have performed a repair on these units by cutting a piece of 3/8" (I.D.) copper tubing 3/8" long and gently tapping this down over the shaft of the thumb turn.

A couple of these units that I have repaired this way have been in service now for over two years without a failure. It also appears that the newer 660's I've been using seem to be heavier in this area and not as prone to failure.

Darrell Shandy
South Dakota

**SLIDE LOCK'S "Z" TOOL
OPENING SET WINNER:
LSDA Padlock
Adjustment**

Recently I've had callbacks on some LSDA padlocks that I've sold. It seems that they would not lock, no matter how hard the customer pushed in on the shackle.

I discovered that the spring around the latching mechanism inside the lock, would jump off the track. After examining a number of these locks I found that the problem was caused by the screw holding the cylinder in place would loosen, which would cause the cylinder to drop slightly and allow the spring to disengage.

I solved the problem by putting a small amount of Loctite on all of the retaining screws on the locks that we sell.

Patrick Henderson
South Carolina

**THE SIEVEKING AUTO
KEY GUIDE WINNER:
Door Guard Bypass**

 I'm sure most of you are familiar with the door guard type locking device that is used in many motels where a long metal loop on a hinge is fastened to the door jamb that is placed over an arm on the door with a ball knob on the end. The occupant of the room flips the loop over the arm on the door and if someone tries to open the door from the outside, the knob on the arm prevents the loop from releasing.

Occasionally, I get called to open one of these locks that for one reason or the other have become locked and prevents anyone from entering the room. Here's the quickest way I have found to unlock one of these locks

without the use of rubber bands, hacksaws or bolt cutters.

Use a key to unlock the door and pen the door as wide as possible. Then as hard as you can, slam the door shut. Most often the loop of the guard will hit the door hard enough that it will bounce open. Then just open the door with a key and you're in.

Every once in a while, it will take a few slams to make this trick work. But, it does work.

Robert Buhler
Utah



**JET KEY BLANKS
WINNER:
Cable Tie Opening
Tool**

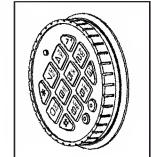
I was at my doctor's office without my van, when a lady came in whose son had locked his baby sister and the car keys in his mother's 1997 Dodge Neon Coupe. I offered to try to help and went to my car to see what I had that I could use to open the locked car. All I had was a handful of 12 plastic cable ties and a claw hammer with a rubber covered handle and a roll of duct tape.

I made a loop on one end of a cable tie then slid the other end into the head of another and repeated the procedure until I had a tool about twenty-four inches long with a loop on one end. To keep my tool relatively straight, I taped each joint with gray duct tape.

Next, I gently pulled the window away from the frame and wedged it with the rubber handled hammer. Then I used my cable tie opening tool to grab the lock button and unlock the car.

Harry Daniels
California

**LA GARD WINNER:
Kwikset Depth
Expansion**

 I have encountered problems when designing a master key system for a customer that has Kwikset locks and the standard 5 depths do not allow enough changes. To overcome this problem, I needed a way to expand the Kwikset system.

What I did was take an old Kwikset card #31 for our HPC 1200 machine and with an X-acto knife, I carefully cut the depths (in a semi-circle) out of the card, leaving only the spaces. (See Illustration 8.)

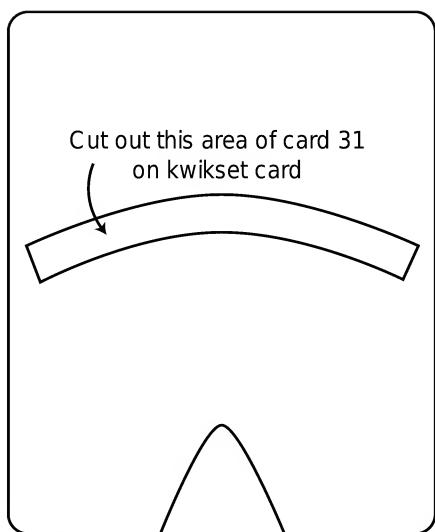


Illustration 8.

Then, I loosened the screws on the 1200 card holder and slipped a Schlage card (#45) into the cardholder and then slipped the old Kwikset card over it. The Schlage depths now show through the window along with the Kwikset depths.

I can now cut Kwikset keys to ten depths. The Kwikset key with Schlage depths works very well as

long as you use Schlage pins. The only difference I encountered was that a zero depth works better with a .168 pin than a .165 pin.

Jerry Dionisio
Colorado

**HIGH
TECH
TOOLS**
WINNER:
**Positive Locking a
Von Duprin 88**

My customer was having a problem with employees unlocking a Von Duprin 88 panic device and not locking it back up when they entered the building. They requested that I find a way to keep the device locked without installing a new device.

Illustration 9, shows how I inserted a small #4 sheet metal screw as a stop (drill a 3/32 hole to accept the screw) which limited the travel of the plug. The plug would turn far enough to allow the thumb piece to be depressed, but not far enough to allow the device to become unlocked. In order for the employee to remove their key, they had to turn the key back to the normal position to extract their key.

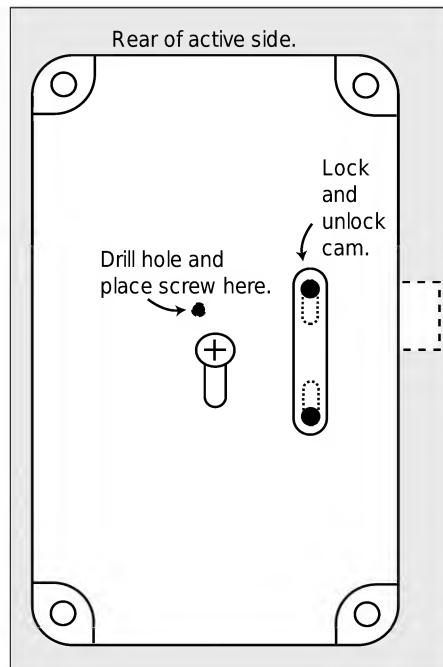


Illustration 9.

The nice thing about this modification is the fact that if the customer wants the panic device returned to its original function, all I have to do is remove the screw.

Ron Armstrong, RL
Pennsylvania

TNL



National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

www.laserkey.com

The WICKEDER Side

As a Mule

You are, without a doubt, the most stubborn, hard-headed creature God ever made. You're even more stubborn than... than Taz!" Don shouted in my direction from his office.

Me, stubborn?

I have learned to ignore him at times like these. It generally means he's on the brink of losing an argument. But to call me stubborn as Taz bordered on insult.

When the little striped gray kitten first consented to let us feed him at the back door step, we knew he was too tame and loving to be a common stray. Checking around the neighborhood, I learned that a family down the street couldn't find all of their mama-cat's kittens on moving day, and had been forced to leave this one behind. Some of the neighbors had taken pity on him and fed him now and then, but nobody claimed him as their own. We took him in, had him neutered, vaccinated, etc., with the idea of making him into a "lap cat."

The cat had other ideas.

At first, we called him "Scooter," because of the cute way he zipped from place to place, playing with one thing or another in attempts to entertain himself. By the end of the second week, we had changed his name to "Taz," as in Tasmanian Devil! Every so often he jumps straight up, spins around like a whirling devil, and streaks off in one direction or another. At some point during the first week we had him, this "innocent" little five-pound feline fur ball decided that our dog was his personal

play-toy. He thought it would be great fun to wait until our one-hundred-and-ten-pound Rottweiler (Samantha) settled down on her bed for a nap. He would then sneak onto the coffee table that overlooks the dog bed, and POUNCE right onto the middle of the dog! Once Samantha survived near heart failure and fled the scene, Taz yawned, stretched, and curled up in the very center of the dog bed, the picture of innocent contentment. This procedure has now become an evening ritual.

Fortunately for Taz, Samantha is a very even-tempered, good natured dog, who (so far) won't harm the cat because she knows we have "adopted" him into the family. One hard stomp or chomp by her, and Taz would be little more than a memory.

On the other hand, Taz does spend a lot of time sharpening his claws.



by
Sara
Probasco

There seems to be no training Taz toward more sociable behavior, especially where the dog is concerned. Small as he is, Taz seems perfectly content to be overbearing and obnoxious, and he has made it perfectly clear that he has no intention of becoming a lap-cat! Apparently, we'll either have to learn to accept him as he is or boot him out.

Right now, it's a toss-up.

"If you really think I'm like Taz, why do you argue with me?" I asked Don. "You know you're always saying, 'Never try to out-stubborn a cat,'" I quipped, trying to coax him into a better mood. No luck.

Although stubborn seems to run in our family, we certainly don't have a corner on that market. Customers can be that way, too.

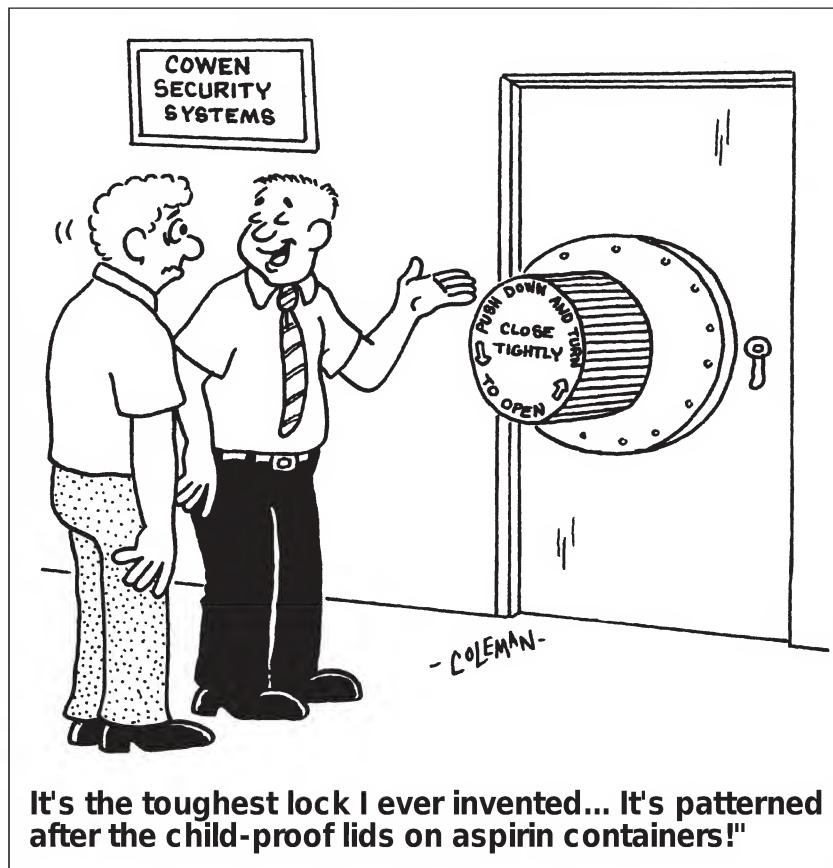
Recently, Don was confronted by an elderly farmer named Elmo, who brought in a broken Kwikset entry handle-set that must have come over on the Mayflower. "An old black iron piece of junk," was the way Don described it. Don showed Elmo some new handle-sets we had in stock, then he pulled out a catalog and showed Elmo others that could be ordered. Elmo said he did not want a new set; he wanted his old one fixed.

"It matches the hinges," he insisted. "It's been on the front door ever since the house was built."

"And that was before the turn of the century, right?" Don muttered.

"They don't make 'em like this any more," Elmo continued.

"There's a reason for that, Elmo," Don replied.



"Well, just fix it."

"I can't," Don said.

"Can't isn't in my vocabulary," Elmo said, his jaw tightening.

Okay, then, I won't!" Don said firmly. "If I tried to patch this up, you'd put it on your door and the first rattle out of the box it would break again. Then you'd have me driving twenty miles out to your ranch to try and fix it, and I'd spend half a day patching it up again. You wouldn't want to pay me what my time is worth for all the time I'd spend on such a piddly little repair job, and I'd wind up eating the bill. Nope. I won't do it, and that's that."

Elmo set his jaw, picked up his broken lock-set and left in a huff.

"Take it to my competitor," Don called after him.

Afew days later, Elmo returned to our store with the lock-set in hand. Someone had welded a piece of metal onto it as a make-shift repair, further contributing to the look of "junktique." Elmo proudly showed it to Don.

"See," he said, "I did get it fixed." Then he strutted out, obviously pleased with himself.

"It's just like I've always said," Don said to a building contractor who was waiting on a purchase, "There's nothing more stubborn than a farmer."

"Unless it's an old carpenter," added the builder.

"Or a locksmith!" I chimed in from the bench area.

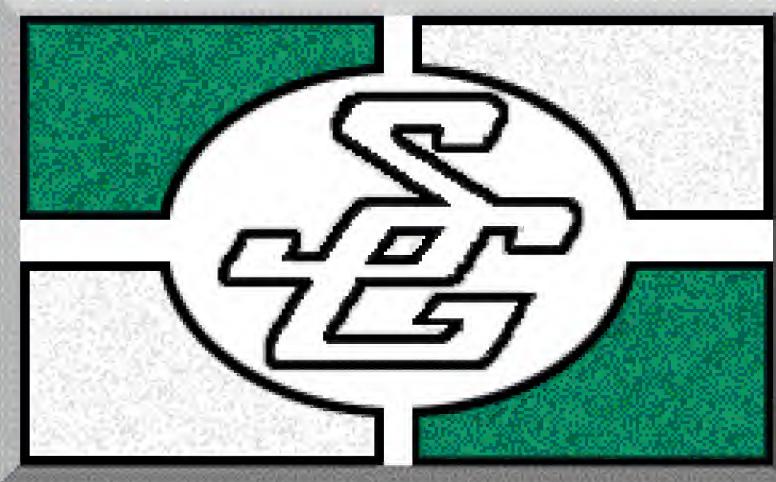
I was in process of tacking up a little "saying" for the benefit of one of our guys who insisted on picking open a lock instead of using a ring of try-out keys we had for that purpose. Although he insisted he could almost always get a lock open quicker by picking it, I had frequently proved the try-out keys faster. Talk about stubborn, we were in a true stand-off over the issue.

Then I came across this little poem, and I couldn't resist tacking it up over his work-bench.

EPIGRAPH OF A ZEALOUS LOCKSMITH

A zealous locksmith died of late
And did arrive at Heaven's gate
He stood without, refused to knock
Determined he would pick the lock.

TNL



Make Sargent &
Greenleaf's
Comptronic locks
your choice for
electronic safe
locking solutions.

[Click here for more information](#)

Road Rally

A showcase of locksmith service vehicles.

If you think your vehicle has what it takes to be featured here, send photographs and descriptions to:
The National Locksmith, Road Rally, 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861.



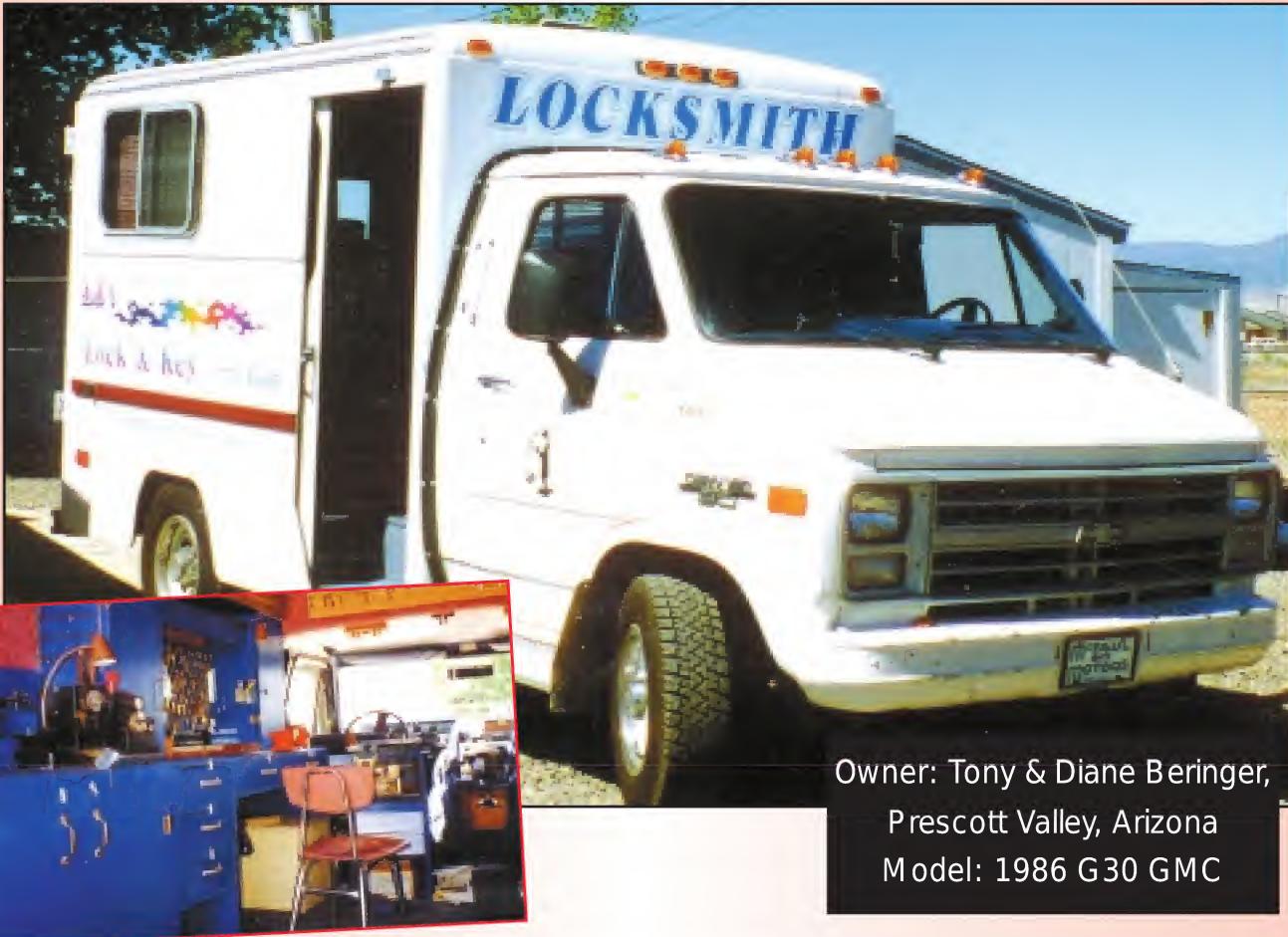
Owner: Jason Hull,
Hayes, Kent (U.K.)
Model:
1996 Volkswagen
Transporter



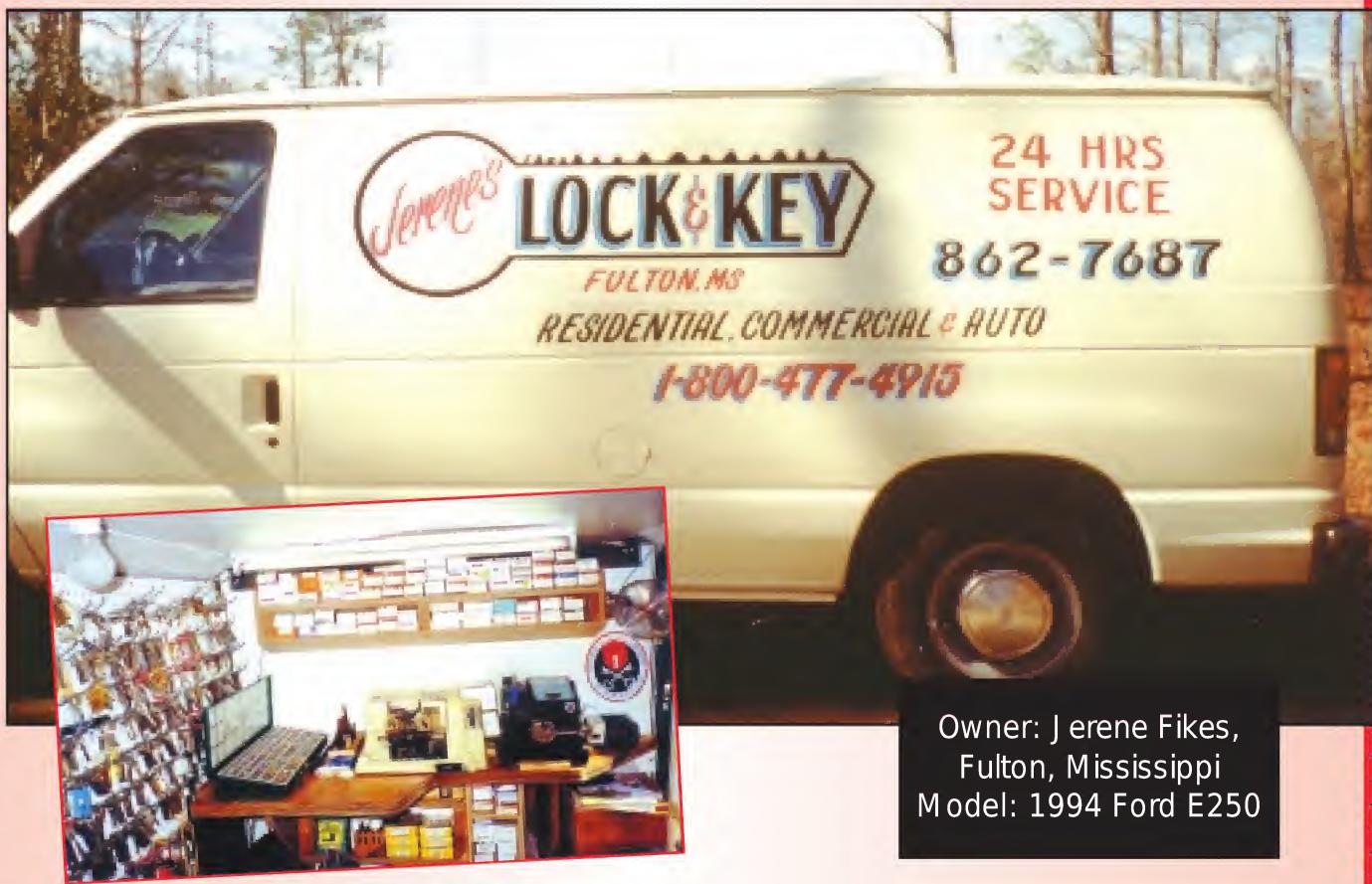
Owner: Richard Garoppo,
Susanville, California
Model: 1991 GMC Safari



Road Rally



Owner: Tony & Diane Beringer,
Prescott Valley, Arizona
Model: 1986 G30 GMC



Owner: Jereene Fikes,
Fulton, Mississippi
Model: 1994 Ford E250



The ITL 950

By Jake Jakubowski

From the time most of us get out of bed in the morning, there is not much that we do that is not in some way, influenced, controlled or assisted by an electronic device of one kind or another. From the alarm clock that wakes us up, to the microwave oven that heated our coffee water, to the computer chip that set the carburetor and allowed us to start our car. Even the radar gun that clocked us doing ten miles over the speed limit on our way to a job. The operation of all these devices is based on some sort of computer technology.

The fact that the ubiquitous computer chip has been rapidly finding its way into the locksmithing industry is beyond dispute. For years we have been seeing access control systems and electronic combination locks play a larger and larger role in our business. More and more, we are seeing computer driven electronics applied to other segments of our industry. Everything from door annunciators, to Rolodexes, to key cutting machines, have been computerized. The ITL 950 is a computerized code machine with a



twist! (See photograph 1.)

Comparing the ITL 950 to key cutting machines is like seeing a Geo next to a Cadillac and calling them both cars. Yes, I guess they are, but which would you rather have?

When I first saw the ITL 950, I told Berj Manukian, of M B-Key, that I would like one to put in my van and really give it a road test. I asked if he'd be willing to let me find out if computerized code-cutting machinery was ready for the road. What I was asking for was not to have

1. The ITL 950 offers smart capabilities that were previously unavailable in a code machine in the \$2000 price range.



a machine sent to me that I could put on a work bench, cut a few keys and take some photographs. I wanted a machine that I could put in my service vehicle and use every day over a long period of time.

Berj finally agreed to send me one and let me put it through its paces. I can honestly say, I think the ITL 950 paced very well.

Photograph 2, shows how I set the 950 up in my van. The configuration I used here came after a bit of trial and error. Unlike on a shop bench where you would be looking down on the machine and almost directly into the LCD, in a van, you have to raise yourself up off your chair to see the display unless you angle the machine as I did. You'll notice that I have the

3. There are five vice jaw inserts that are needed to cut the full range of keys the ITL 950 is capable of cutting.





Continued from page 118

unit installed on a rather sharp angle. I later added a small goose neck lamp to help illuminate the display window under adverse or low light conditions which made the display much easier to read.

The use of the 950 requires vise jaw inserts which are used to stabilize the key when cutting. There are five vice jaw inserts that are needed to cut the full range of keys the ITL 950 is capable of cutting. (See photograph 3.) Insert #1 is for cutting various keys from ASSA, some Audi, Volkswagen, old Schlage wafer and some Triumph. Insert 1A is used for Chrysler, Ford, Geo, Mazda, Nissan and Toyota. Insert 1B is used for Best, Falcon, and Peaks interchangeable core. Insert #2 is for Russwin, Sargent, Corbin, Schlage, Yale, most common sectional and automotive keys as well as most Abus padlocks. Insert #3 is for Abus, Auth, Corbin, Diebold Hudson and others.

The previous examples of which vice jaw inserts are used for which manufacturers keys is just a sample of the overall capabilities available. These vice jaw inserts are designed to securely hold many more key blanks than listed.

In photograph 4, you can see the 115-VAC power supply on the left, and on the right, the 12-VDC power terminals on the back of the machine. I have used the machine in both modes depending on where I was at the time. As a rule, I leave it hooked up for AC usage, but can quickly unplug it and switch it over to DC when I do not have AC available.

In photograph 5, you can see the com ports that will allow the downloading of master key systems from a laptop computer or other data base to the ITL 950. The 950 has built-in capabilities for generating master key systems that can be uploaded to your PC's printer. That system will include the master and

change keys, pinning chart and hardware report. The only reason it has to be uploaded to the PC is because the 950's memory is not large enough to store the system it generates.

Operation of the 950 is relatively simple. Turn the machine on and crank the carriage to the left until the LCD display lights up. (See photograph 6.)

Next select a manufacturer from the list provided in the instruction manual and input your selection on the keypad. The list of manufacturers presets covers 42 pages and encompasses over five hundred manufacturers specs (including multiple presets for some companies) which include the depths, spacings and flat information. If you have a manufacturer, or key that is not listed, you can input your own codes necessary to cut a key. Also, if you have a situation where you have an O.E.M. spec blank and an after market cylinder, you can input correction factors if you find it necessary to change the presets.

Next, input a code into the keypad (see photograph 7), insert the key in the vise, push the "Cut" button on the touch pad and crank the handle to bring the carriage to the start position. (See photograph 8.)

When the carriage reaches the start position, the cutter turns on automatically. When the process is complete, the end result is a perfectly cut Sargent key to the code of 4-7-4-7-6-9. (See photograph 9.)

6. The 950 utilizes a LCD display for visual verification of input information.



4. The 115-VAC power supply on the left, and on the right, the 12-VDC power terminals on the back of the machine.



5. The com ports that will allow the downloading of master key systems from a laptop computer or other data base.



To insure a mechanically correct key, the first key should be miked or otherwise checked for accuracy. If the spacing, or depth is out of tolerance, a plus or minus factor can be programmed into the 950 as a correction factor. Once the proper code has been determined, the correction factor for a particular key blank or specific job can be noted, and each time the machine is set up, the correction, flats or other necessary settings can be entered through the touch pad prior to cutting the key.

After well over a year in my van, I find the 950 is still doing a superlative job cutting keys. I have cut everything from Arrow interchangeable core keys to Kwikset cylinder keys to Wilson Bohanan padlock keys. I have cut automotive keys, Yale keys, Corbin keys, Schlage keys and even a Lockwood or two on the ITL 950. Of all the keys I have cut the only ones I had trouble with or that didn't work properly, were the ones that I failed to program into the machine accurately.



Continued from page 120

Included in the cutting of the above mentioned keys have been several master key systems (not downloaded, but each key cut according to my own specs). I found the ITL particularly helpful in this situation since one lock in the system might call for two keys cut alike and another for twelve. Just set the CODE, press CUT, crank the key across the cutting wheel, remove the cut key, insert another, press CUT and continue until you have cut the exact number of keys you want for that particular code. There's no need to memorize the cuts because they're programmed into the machine.

Keep in mind that the ITL 950 is not a duplicator. This machine is a code cutter. Every key that is cut on the 950 is cut to O.E.M. specs. Whenever I found a need to vary from the presets that are factory programmed into the 950, it was easy enough to determine the necessary corrections that were needed by either using a micrometer or pinning a cylinder and checking the key visually for proper tolerances.

Even though the 950 is not a duplicator, you can duplicate keys easily by visually decoding the key or using a gauge or HPC's HKD 75 Key Decoder. Then just punch up the proper manufacturer, input the code, put the key in the vise, press CUT on the keypad and crank the blank across the cutting wheel.

I was impressed by the 950's ability, under mobile conditions, to maintain its factory settings without requiring chronic adjustments. I do, on average, put about thirty-six thousand miles a year on my van. The roads that I travel are not super-smooth highways. So, my van bounces, vibrates and shimmies, like anyone else's would under similar conditions.

Sometimes, when I hit an unexpected bump, drawers tend to pop open and tools are prone to jumping off the workbench. Those bumps are rough on the van and any type of equipment being carried, especially key cutting machinery.

During the time I've had the machine, it has not required any repairs or adjustments other than those relating to key tolerances.

One thing I did find out, on a personal level, was that Berj Manukian was extremely helpful when I had a technical question. Most often, the questions involved something I had failed to read in the directions! Isn't that usually the way?

Conclusions

With a suggested retail price of \$2,295 without Medeco capabilities, and \$2,395 with Medeco capabilities, I think the ITL 950 is one tough computerized code machine

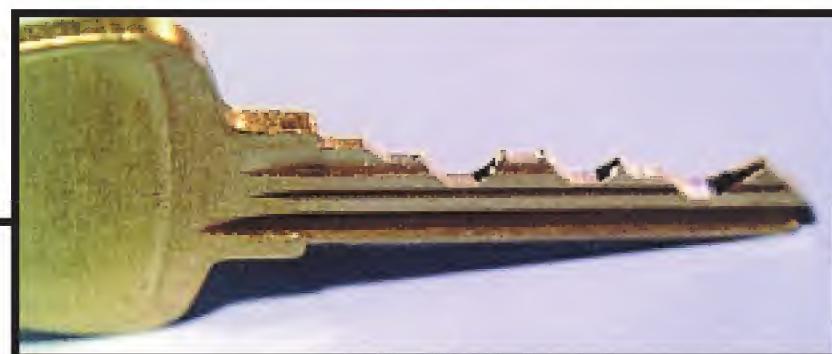
7. The keypad of the 950 allows direct input of key cutting information.



that can withstand the demands of a mobile unit. The few inconveniences I encountered, like the display window angle and low light problems, were easily overcome with a little ingenuity and a screwdriver.

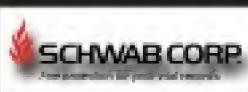
From what I understand the next generation 950 has addressed those issues. I was also told that the newer 950 would have improved logic for cutting adjacent deep and shallow cuts, better electronics and an increased memory. If that's the case, then I feel the newer ITL 950 will be well worth taking a good, long look at because I thought the one I'd been using was excellent.

If you're going to be in Nashville this month for the ALOA convention, stop by MB-Key's booth and take a look at the ITL 950. I really think you'll be glad you did. If you're not going to be in Nashville, give MB-Key a call at: (1-562-699-0060). Tell 'em: Jake told me to call! **TNL**



8. Insert key in vise, push the "Cut" button on the touch pad and crank the handle to bring the carriage to the start position.

9. A perfectly cut Sargent key to the code of 4-7-4-7-6-9.



SUBTERRANEAN DATA STORAGE VAULTS

by Don Shiles

There is a new product on the market that is different than anything you have seen before, or at least, I have never seen anything like it. In Photograph 1, you will see a picture of the above-ground portion of

the vault. While there are many different types of safes and vaults on the market, this one is unusual in several respects. The vaults are manufactured by the Subterranean Data Storage Company, which is located in Lewiston, Idaho. It appears that they have found a need in the commercial world of security and have developed a product to fill that need.

In today's world of hi-tech communication, one of the fears that we all have is a situation wherein we would lose all of the information stored in our computers, in our roledexes, planners, and notebooks. We are constantly counseled to back-up our files and other important information. Some of us do, others haven't in the past and have had catastrophic problems due to a computer glitch, a power loss, fire, flood, or other natural calamity. SDS Vaults offer a way to ensure that we do not

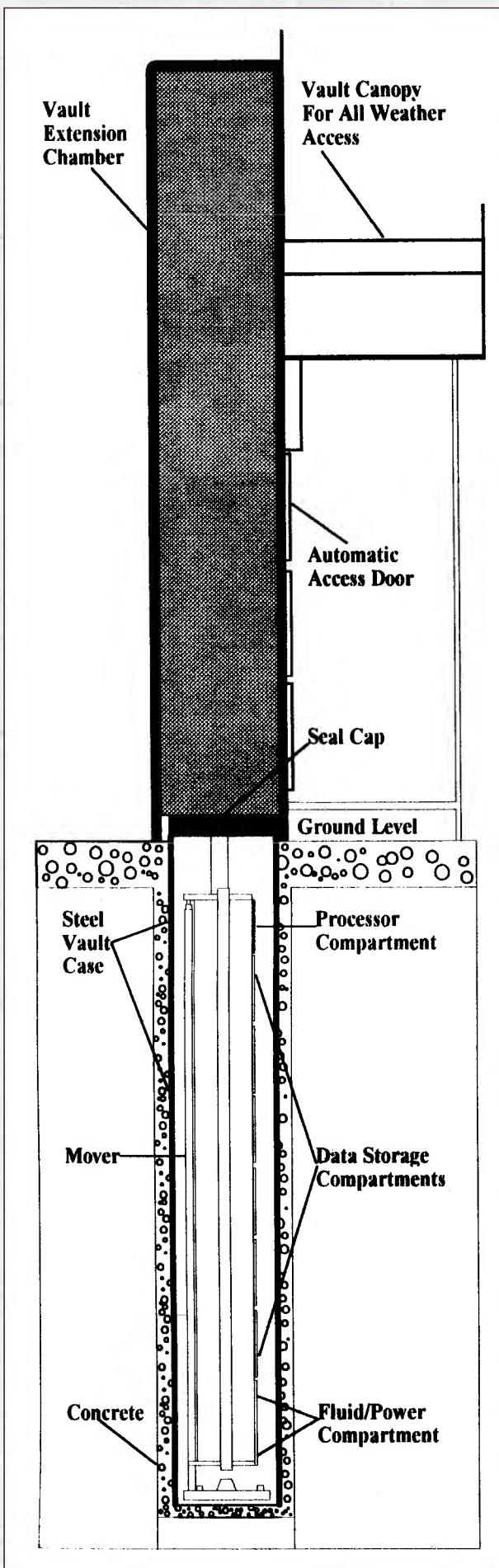
lose all of our records, data, and other files in case of such an event.

The Federal Financial Institution Executive Committee (FFIEC) guidelines require off-site storage of all financial records, sensitive information and other business data. This is to ensure that in case of a catastrophe, there will be back-up copies of all necessary data. Practically any business in the world would be devastated if all of their financial, historical and business files were irrevocably lost. When a business needs to store data off-site, they find there are numerous drawbacks. A few of these would be; the cost of storage facilities, cost of transportation, inconvenience of moving files/ data into and out of the area, increased vulnerability to loss or compromise during transfer, (whether physical or electronic), and, last but not least, the inconvenience of not having ready access to those files when needed.

SDS Vaults offer ready access to stored information, secured from fire, flood, earthquake, theft, and bombing. How can they do this? It is really quite simple. The vaults are underground on the site of the institution. In concept it is really simple, the application however, is innovative and interesting. Even though they may be on the site of the facility, they still



1. SDS underground vaults offer a way to ensure that records, data, and other files are not lost.



A. A drawing of the overall system.



2. The SDS vaults under construction at the factory in Idaho.

have been judged to meet the required standards due to the protection they offer against most catastrophes. Of course, if desired, they can be built on a remote site.

The vault is protected from surface fire and water damage by a fire resistant cap with a 3000 pounds PSI seal. Access to the vaults is controlled by an electronic access control device that offers a full audit trail of those having gained entry.

The vault's storage areas are available in various sizes to accommodate different types of media. The vault consists of a steel vault case, galvanized inside and out, which is cemented into the ground. Data storage compartments, a fluid power compartment, a mover device, and the processor compartment are all components that are below ground. Above ground is the sealed cap I mentioned earlier, vault extension chamber, automatic access door, electronic access control

system, and a canopy for protection of the user during inclement weather.

When an authorized user enters their access code, the mover raises the indicated storage compartment to the proper automatic access door. The mover uses a dual fluid power supply to operate a hydraulic cylinder and the upper and lower platforms. In the event one of the fluid power supplies would fail, the other will continue to operate the system.

There are dual 220 v electric power supply cables to furnish electrical power to the system. Again, one system is sufficient to operate the vault mechanism. See Illustration A, for a drawing of the overall system. Photograph 2, shows the SDS vaults under construction at the factory in Idaho.

While this is not your normal locksmith or safe technician serviced safe or vault, there is no reason why we, as technicians, should not get involved with these vaults. There is an apparent need for such devices. These vaults are going to be used, probably quite extensively, and someone has to be prepared to service them. If you do any work for commercial businesses, banking institutions, museums, educational institutions, etc. you might want to recommend one of these to your customers. For more information you can contact Mr. John Adcock, 2033 3rd Avenue North, Lewiston, ID 83501 (208) 746-2188. **TNL**

McGUNNI DOUBLE COMPARTMENT SAFE

The restaurant where this safe was located was getting ready to move and needed access to the bottom compartment to unbolt it from the floor. (See photograph 1.) The opening described here will also work on the Timbination lock on the top compartment as well.

Due to the extended bolt work design and the B rate (1/2" door) construction, there are a few tricks that make servicing of these units very profitable. I will present these tricks and what I have learned about these safes.

First I mark the drill point of 2-3/4" left of dial center at #75 on the dial. (See photograph 2.) This is the location of a 10-24 screw that goes through the extended bolt of the S&G 6730. The bolt connects to a 3/8" wide strip of steel which pulls a heavy blocking bar back and forth to lock and unlock the safe. This screw I am attacking is just the other side of a 1/2" mild steel plate.

I drilled easily through the door in just a few minutes using a new 5/16" HSS drill bit. (See photograph 3.) When my hole broke through I was looking at the right side of the strap that I needed to be in the middle of.



The McGinni B-rate double compartment safe.



Mark the drill point of 2-3/4" left of dial center at #75 on the dial.



I drilled easily through the door in just a few minutes using a new 5/16" HSS drill bit.

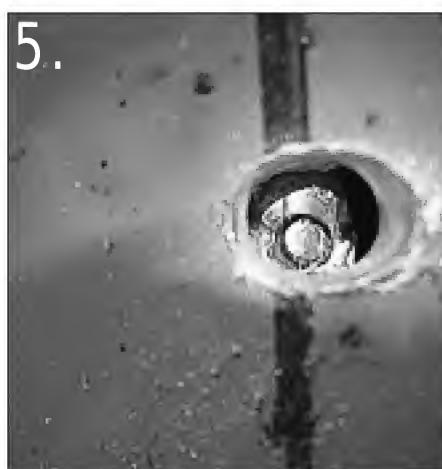


To correct, I angled my hole to reach further to the left so I could get to the link screw.

To correct, I angled my hole to reach further to the left so I could get to the link screw. (See photograph 4.) When I saw the end of the screw through the hole in the strap I figured I was home. (See photograph 5.) At this point I usually drill into the end of the screw with a sharp 1/8" drill bit and the screw backs right out disconnecting the strap from the combination lock bolt. In this case plan B was necessary because the screw refused to back out. I ended up having to drill the tip of the screw off. (See photograph 6.)

Once this is done I simply fish the strap to the right to unlock the boltwork. The key lock below the handle must also be unlocked for the door to open. If it is also locked, it can be easily picked to the unlock position.

I swung the door open and started into the repair by removing the back cover. (See photograph 7.)



I saw the end of the screw through the hole in the strap and figured I was home free.

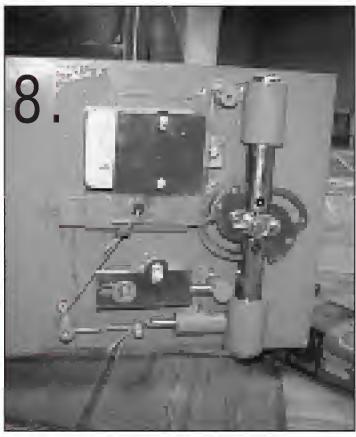
This turned out to be an older model as identified by the glass on the back cover attached to the relock cable. (See photograph 8.) The newer versions of this door have the same cable going to a notch on the back cover of the lock which will release if the cover is knocked loose.



I ended up having to drill the tip of the screw off.



I swung the door open and started into the repair by removing the back cover.



This turned out to be an older model as identified by the glass on the back cover attached to the relock cable.

I dismounted the lock to give me room to get to the hole from the inside for repair. (See photograph 9.) The first step to the repair is to take a small medium sanding disk and cut the burrs off the outside and inside of the opening hole.

Next I beat in a 3/8" long taper pin and mixed my body putty. (See photograph 10.) The body putty is mixed in small doses for a job like this, and a tablespoon or so did the job here. After the hole is stuffed beyond flush from front and back it is allowed to set which takes about a half hour or so. (See photograph 11.) This is now the perfect time to clean and service the lock.

When I return with the lock I used my small disk and a fine touch to blend inside and out to flush. (See photograph 12.) A rag with solvent is wiped over the area and then a bit of Krylon Sky Blue spray paint makes the repair spot invisible. (See photograph 13.)

Remount the lock, install a new 10-24 screw making sure that you cut it long enough to pick up the strap and not lose it, but not too long that it will dig into the door. (See photograph 14.)

I leave the lock in the key change position after service so that after I remounted it a combination could be set very quickly. Be sure

SCHWAB CORP.
Fire protection for your vital records.

**It's not safe
unless it's
Schwab Safe.**

[Click here for more information](#)



I dismounted the lock to give me room to get to the hole from the inside for repair.

that your combination card has your name and number on it because this can mean a lot of return business. A wipe of the key lock face and the handle to remove some blue over spray and you're done.

Now here are some conditions,

SRI
SECURITY
RESOURCES INC.

SRI and Steve Young are working together to bring you the best in locksmith tools and supplies.

[Click here for more information](#)

problems and solutions when servicing this McGunn double compartment safe.

Condition: Drill for lost combo or bad lock.

Problem: As described in article.

Solution: 2-3/4" left of dial center at #75 on the dial.

Condition: Handle turns, door jams 3/4" open at opening edge.

Problem: Relock may be engaged.

5-1/4" right of door edge 1-1/2" up from bottom edge.

Solution: Fish plunger to right 3/4" or so to unlock.

Condition: Handle turns, door jams 3/4" open at opening edge.

Problem: Back cover has slipped down jamming door.



I beat in a 3/8" long taper pin and mixed my body putty.



After the hole is stuffed beyond flush from front and back it is allowed to set.



I used my small disk and a fine touch to blend inside and out to flush.



A rag with solvent is wiped over the area and then a bit of Krylon Sky Blue spray paint.



Remount the lock, install a new 10-24 screw and the job is done.

Solution: Pry it open and spend an hour straightening door cover.

Condition: Combination works at times but unpredictable.

Problem: Bolt McGunn used with lock.

Solution: Bolt detent is not precise enough to locate bolt and lever consistently. Replace bolt with original S&G.

Condition: Key lock jams.

Problem: Washer and cotter pin slipped apart on back of lock.

Solution: Install a 1/4" washer and fresh cotter pin full size of hole in slider guide.

Originate a key.

V61A Ilco key blank.

Impressions easily.

TNL

THRU THE KEYHOLE

A Peek at Movers & Shakers in the Industry

ATTENTION MANUFACTURERS AND DISTRIBUTORS:

Would you like your company and products to be profiled in Thru The Keyhole? Please call Editor, Greg Mango, at (630) 837-2044.

Trimec Securities

A world-leading manufacturer of electric strikes and locking products.

Trimec is a privately held Australian company incorporated in 1990 with the single aim to design and manufacture innovative locking products of high quality and security. Trimec's innovations helped them to obtain both U.S. and international patents covering the unique technology of their products. The company operates to the standards of ISO 9002 and will soon seek formal certification.

Philosophy

When entering the electric strike market, Trimec saw a need for a reasonably priced strike, offering features only available in higher priced strikes. Trimec also believed in "installer friendly" products and decided to make all ES-Series strikes field reversible from Fail Secure to Fail Open, and provide installation templates for door preparation and easy installation.

Products and Standards

Trimec offers some of the highest quality and easiest to install products available. The ES series strikes (excluding the ES600) have

successfully met or exceeded the highest standards of UL1034 for Burglar Resistant Electric Locking Mechanisms.

ES100 Series- Provides 3000lbs. of holding force, Fail Secure to Fail Open in about 45 seconds, fits a standard ANSI cutout, and has a low profile - only 1 1/8" backset. A 3 year warranty is included.

ES300/ 3000 Series - ES300 and ES3000 burglary resistant strikes offer 3000lbs. holding force, are tamper resistant, require low current (88mA@24VDC), and have a low profile - 1-1/8" backset. Independent door and latch monitoring is available (ES3000 only). A 5 year warranty is included.

ES600 Series - A surface mounted electromechanical lock that replaces conventional locks or electromagnetic locks. It offers 3000lbs. holding force, is side load resistant up to 1200lbs., has independent monitoring for the door and lock, and is cycle tested to 2,000,000 cycles. It has a 3 year warranty.

Worldwide Installation Sites

Trimec ES series electric strikes have been used in major projects worldwide including: major airports, government buildings, and major commercial buildings and banks. Recent projects include the House of Commons and the Metropolitan Police in London.

Trimec is committed to designing products which offer better solutions to installers, and represent better value to the end user. Trimec is constantly developing new ways to provide the best solution for access control.

For further information contact:
Trimec, 835 Sharon Drive, Westlake,
OH 44145, Phone: 800-987-4632,
Fax: 440-871-1870,
E-mail: sales@trimec-usa.com

TNL



STRATTEC™

*It's your
reputation.*

*Trust the
original.*

[Click here for more information](#)

Safe Restoration

The final installment of restoring an antique safe. **Part 6**

by Lynn A. Burman, CPL, CJ S

We are in our final month of restoring this antique cast iron safe. This month we will finish everything up and put the safe back together.

To close the back of the door up, I need to repair the access hole that was

cut into the insulation. (See photograph 1.) To do so, first turn the door over (back side up), and place a thin metal disc in the bottom of the hole. This will keep the new insulation from getting into the bolt-work.

Photograph 2, shows the tin disc in

place to cover any moving parts. Mix a batch of fire insulation (which can be purchased from Lockmasters)



1. I need to repair the access hole that was cut into the insulation.



2. The tin disc in place to cover any moving parts.

Continued from page 152



3 The original homemade door plug.



4. A new door plug was designed using a little metal and fire insulation.



5. Once the drive cam is removed the whole wheel pack can be removed.



6. I only had two of the original acorns and one was broken.



7. The dial, dial ring, and four acorns after returning from the plating shop.



8. The interior of the safe is finished.

according to the instructions with the mix. Lockmasters is the only source for fire insulation material that I know of.

Back when we started this project I said that we would need to make a new lock cover to replace the homemade one that was already on the safe. Photograph 3, shows the original homemade door plug. A new door plug was designed using a little metal and fire insulation. (See photograph 4.)

Before installing the door plug, remove the wheel pack to clean and lubricate it. Notice that once I removed

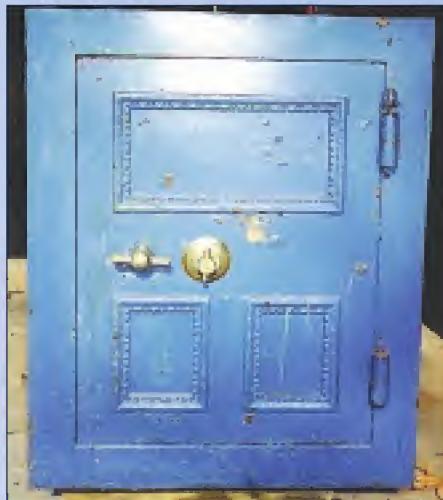
Continued from page 154

the drive cam the whole wheel pack can be removed from the door. (See photograph 5.)

Reinstall the wheel pack and install the dial ring and dial after greasing the hub. Lubricate the hub of the drive cam and screw it on the spindle making sure the drop-in position is at the correct place, then install the spline key and put the cover on the drive cam (I also had to make this out of brass). Dial in the combination and test several times. Now we can install the new door plug lock cover.

The next step is to clean the hinge pins and the pin sockets, lubricate the pins and set the door. Finally, the acorns can be installed. I only had two of the original acorns and one was broken. (See photograph 6.) Fortunately I happened to have a full set of four that were about the correct size in my junk box. Photograph 7, shows the dial, dial ring, and four acorns after returning from the plating shop.

The interior of the safe is finished. (See photograph 8.) You can see how much has been



9. You can see how much has been accomplished from when we first started this project.

accomplished by looking at the safe when we first started this project. (See photograph 9.)

After assembling the dial, handle, wheel pack hinge acorns and other mechanical parts, the safe is completed and shown in photograph 10.

I call this unit the Gilded Lady Safe and now that the job is done,



10. The safe is completed and ready for sale.

one must ask was it worth it? Well, if the unit sells for the asking price of between \$750.00 and \$1000.00, it was worth it.

Anybody interested in having a safe done can call me at (612) 825-9383 between 8:30 a.m. and 1:30 p.m. central standard time, Monday through Friday. I hope that you have enjoyed this safe restoration as much as I have. **TNL**



ASP Covers the World of Auto Locks

[Click here for more information](#)



Quick Entry UPDATE

by
Steve
Young



1998 Oldsmobile Intrigue

The 1998 Intrigue was released mid-year in the 1997 calendar year. The Intrigue is built on the same basic platform and shares many features with the Pontiac Grand Prix. (See photograph 1.) The doors on both vehicles are essentially the same and both vehicles can be unlocked with the method listed below. However, the ignition lock and the steering columns on each vehicle are completely different from one another. The Grand Prix uses the "CSS" steering column, and the Intrigue has a dash-mounted ignition lock. Both vehicles also require the use of a totally new key blank.

Strattec assigns a number to each grooving pattern or keyway that they manufacture in order to simplify the descriptions of each key blank. The "standard" 10-cut blanks use the "75 groove" pattern. The key blanks used by both the Grand Prix and the Intrigue use the "88 groove" pattern. The two grooving patterns are very similar at first glance. The 88 groove has slightly deeper warding than the 75 groove. Keys milled with the 88 groove will pass the keyway of all applications intended for the 75 groove, but keys milled with the 75 groove will not pass the keyway of locks specifically designed for the 88 groove. This feature was initially designed into the keys and locks in order to provide a valet function.

On the Grand Prix, the trunk and glove compartment locks are built to accept the 88 groove blanks only, while the ignition and door locks will



1. The Intrigue is built on the same basic platform and shares many features with the Pontiac Grand Prix.

accept keys milled with either the 88 groove or the 75 groove. The primary key for the car is cut on an 88 groove blank (Strattec part number 597253) and will pass all of the locks on the car. The valet key is cut on a 75 groove blank (Strattec part number 322465) so that it will not pass the trunk or glove box locks. If you accidentally duplicate a Grand Prix primary key onto a "standard" 10-cut key blank (with the 75 groove pattern) you will have unintentionally made a valet key. The only real difference between the Grand Prix primary blank and the Intrigue blank is the overall length of the blank and the size of the bow. Because the Intrigue uses a dash mounted ignition lock, it requires the extended blank with the larger bow.

In the beginning, both the Grand Prix and the Intrigue were intended to have this valet key system. However, somewhere along the line, GM changed the design specifications for the Intrigue to eliminate the valet function. Because some of the engineering had already been

done with a valet key in mind, the Intrigue now uses a key with the 88 groove (Strattec part number 598033) instead of the standard 75 groove used on other GM 10-cuts keys. If the key is duplicated onto a standard GM 10-cut blank, which has the 75 grooving, such as the 597796 which fits the Oldsmobile Cutlass, it will not operate properly in the trunk and glove box locks.

OPENING THE INTRIGUE AND GRAND PRIX

The linkage rods leading to the latch are sandwiched between the inner skin of the door and the door panel except for a short length (about 6") that is exposed at the rear of the door.

To unlock the car, begin by wedging open the door above the outside door handle. Insert an inspection light into the door and visually locate the two diagonal linkage rods at the rear of the door. (See photograph 2.) Carefully insert the short end of the Tech-Train 1003 tool (see illustration A) into the door and grasp the inside lock control

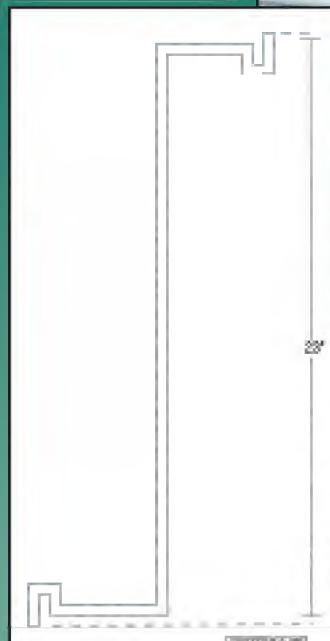


Illustration A.
The Tech-Train
1003 tool.



2. Begin by wedging open the door above the outside door handle and insert an inspection light.



3. Twist the top end of the tool to lock onto the linkage rod, then lever the linkage rod forward to unlock the car.



4. The two rods cross over each other in the short length that is exposed inside the door.

linkage rod, which is the rod that is closest to the outside of the door. Twist the top end of the tool to lock onto the linkage rod, then lever the linkage rod forward to unlock the car. (See photograph 3.) This opening can be done by feel, but I strongly recommend the use of a quality inspection light such as the Tech-Train 1510 light shown here.

The inside lock control linkage rod is the lower of the two rods connected to the latch. The two rods cross over each other in the short length that is exposed inside the door. (See photograph 4.) As the two rods cross over each other the inside lock control linkage rod is the rod closest to the outside of the door. Because the door locks are plate-tumbler locks and not sidebar locks, picking the door lock to unlock the car is another option. I have had success in picking these locks with both standard and rocker style picks. I do however seem to have better luck with

the rocker style picks. The direction to pick the passenger side door lock is clockwise. The driver's side door lock will pick counter-clockwise to unlock.

QUICK REFERENCE GUIDE:

VEHICLE: 1998 Oldsmobile Intrigue

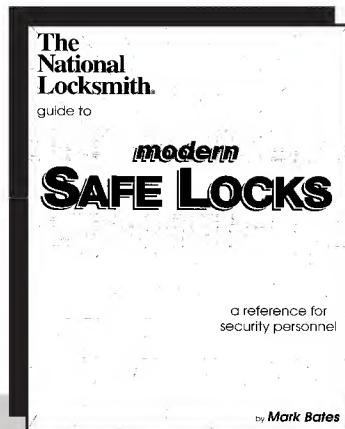
DIRECTION OF TURN (passenger

side): Clockwise (CW)

TOOL: TT-1003 (short end)

LOCK SYSTEM: GM 10-Cut, In-Dash Ignition

KEY BLANK: Strattec 598033 (88 groove) **TNL**



This material was excerpted from the Mark Bates book titled Modern Safe Locks. The book covers combination operating and changing procedures for virtually every combination lock both mechanical and electronic, that you will encounter on a daily basis. Modern Safe Locks is available for purchase through **The National Locksmith**.

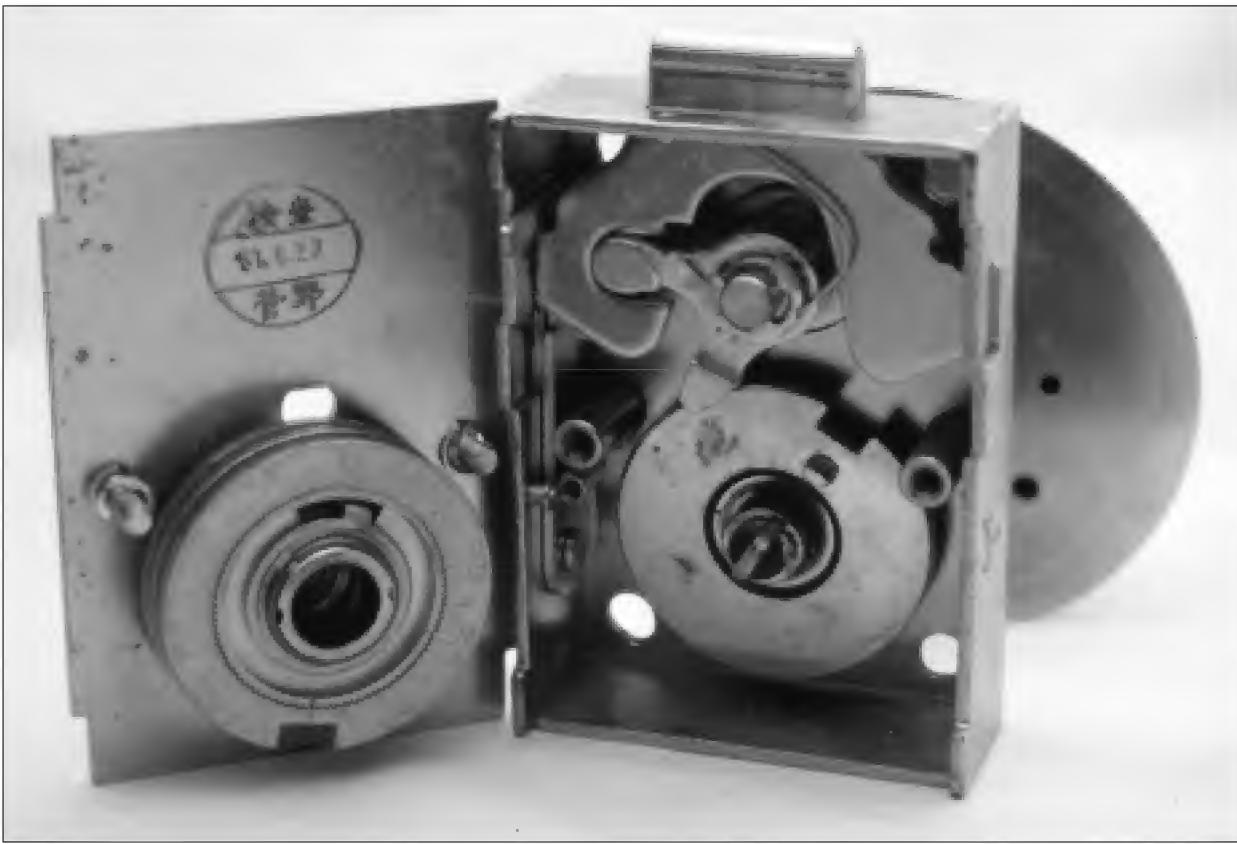
Satch

MODEL:	Sun 700
DESCRIPTION:	Three wheel, hand-changeable combination safe lock. Dial is numbered from 0 to 99 clockwise.
RATINGS:	None
FACTORY COMBINATION:	4XR to 50, 1XL to stop.
OPENING PROCEDURES:	WHEN SET TO A 3 NUMBER COMBINATION: a. 4XR to 10 b. 3XL to 20 c. 2XR to 30 d. 1XL to stop (8)
TO LOCK:	Turn dial right 4 times.
FORBIDDEN ZONE:	Calculated as 5 to 25.
CHANGING PROCEDURE:	Typical hand change technique.
TOOLS NEEDED:	Medium phillips screwdriver for cover, small slotted screwdriver to remove wheel retainer.
NOTES:	Although this writer has little field experience with this particular model, I am informed that it is an extremely reliable lock. The design is heavily influenced by locks once manufactured by Yale.

Satch



Sun 700



IC

Lock Introduction

by Gerry Finch

This installment of the series will deal with the unloading and loading of the core as well as the theory of pinning.

UNLOADING AND LOADING THE CORE

To rekey a core, it must first be removed from the housing by means of the control key. If the control key is not available, there are several ways the core can be removed from the housing. These methods will be discussed later in this series.

When removing the core from the locking device with the control key, insert the key into the core and turn it to the right (clockwise) as far as it will go, about 15 degrees. Now, without turning the key back, pull on the key to extract the core from the housing. The core is now ready for re-pinning. (See illustration 1.)

There are two types of cores that you will be required to service. One type uses small caps to seal the tops of the pin chambers. This type of core is manufactured by all the

current manufacturers of these type of Cores. (See illustration 2.)

The second type of core is manufactured by Falcon Lock who also manufactures the type of core that uses caps. This second type of core uses a spring cover to cap off the core. These covers are basically the same as those used on many of the standard pin tumbler cylinders. Falcon has been using this type of spring for over 30 years so you will service a lot of these types of cores. (See illustration 3.)

The method of capping each of the types is the only major difference in the cores. Only the tools and equipment used to service them is different. To remove the caps from the cores that use them you will need what is known as an Ejector tool. (See illustration 4.) Some of the keying kits available will have an Ejector tool in them. If not, they can be purchased

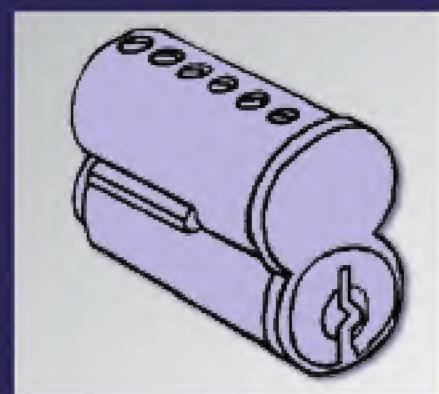
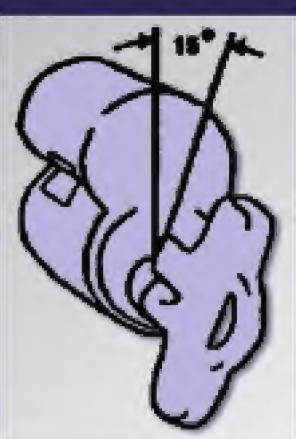
Part 3 – Servicing Interchangeable Cores: Arrow-Best-Falcon

separately from A-1 Security Manufacturing Corporation. A tool known as "The Block" is also available from the same manufacturer for unloading the cores.

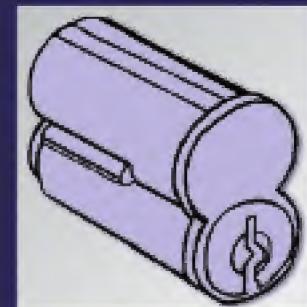
The core can be unloaded by holding it in the palm of your hand with the bottom of the core up and the top of the core down in the palm of your hand. Insert the Ejector tool

Continued on page 166

1. Insert the key into the core and turn it to the right (clockwise) as far as it will go, pull on the key to extract the core from the housing.



2. This type of core is manufactured by all the current manufacturers of these type of Cores.



3. Falcon has been using this type of spring for over 30 years.

Continued from page 164

into the holes in the bottom of the core. Next use a small hammer to lightly tap and drive out the caps from the core. The caps and the springs will be damaged. Discard them. (See illustration 5.) DO NOT attempt to reuse them. The caps will be distorted and if reused will not sit as tightly as necessary. There is also a good chance they will pop out of the chamber later, locking you out of the cylinder.

When unloading the core it is wise to start from the number one chamber at the back of the core. When unloading in this manner it is easier to keep track of which pins came from which chamber if you are attempting to decode the core. The exact location and size of each pin is a must if you are to decode a core for either the control key or top master key. We will discuss this in detail later.

To remove the spring cover from the Falcon type cores that use them, again use the Ejector tool. Hold the core upside down and insert the tool into the small hole in the number one chamber at the back of the core and tap it with a small hammer just enough to dislodge the spring cover

4. To remove the caps from the cores that use them you will need what is known as an Ejector tool.



5. Insert the Ejector tool into the holes in the bottom of the core.



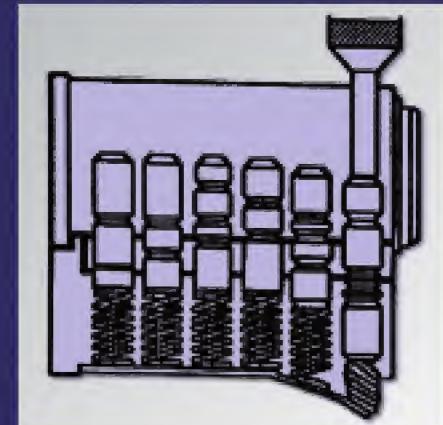
from the first pin chamber. (See illustration 6.) DO NOT drive it out far enough to allow the spring and pin to fall out of the core. Grip the loose end of the cover with a pair of needle nose pliers and remove it by peeling it back carefully. (For you sardine lovers, pretend you are opening a can of sardines.) Use your fingers to keep the pins and springs in the core as you peel and remove the cover. Again this is a must for decoding the core. Remember to never reuse the covers of springs. Always use new ones.

If you are rekeying only a few cores and they are under the same master key, there are times when you need repin only one or two chambers to recombine them. If they are cores that use caps, remove just the caps from the chambers that must be repinned. Be absolutely certain the chambers are empty before repinning.

When rekeying the Falcon cores that use a spring cover, the entire spring cover must be removed. Remove the cover carefully by holding your finger over the springs as you peel back the cover. Then sit the core into the capping block from the Falcon service kit and remove all the springs. Now remove just the pins from those chambers you are going to repin.

REPINNING CORES THAT USE CAPS

When pinning these cores I have found it best for beginners to load one chamber at a time, try each key in the chamber and if all work



6. Hold the core upside down and insert the tool into the small hole in the number one chamber and tap it with a small hammer.

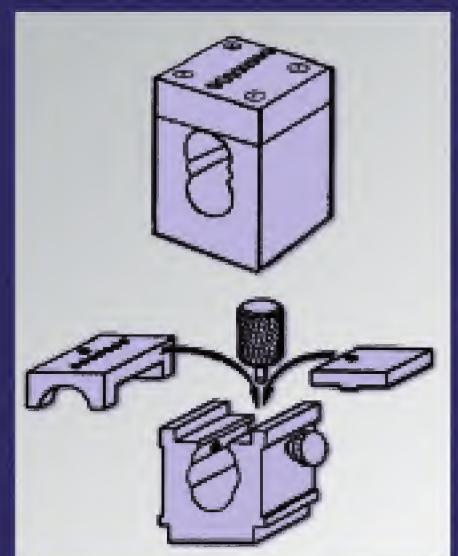
properly, cap it. If there is a mistake in loading pins it is very simple to correct when using this method. After you become familiar and comfortable with pinning these cores you can switch to pinning all chambers before trying each key and capping the chambers. To repin the cores use one of the various capping blocks available. Two different types are shown. (See illustration 7.) One will do the caps only, the other will do the caps and spring covers.

Insert the empty core into the pinning block. Now align the pin chambers in the sleeve and plug with those in the shell. To do this insert the tip of the Ejector tool into the back of the core and push the locking lug to the right until it is fully extended out of the core. (See illustration 8.)

Next insert the Ejector tool into the number 6 or 7 chamber (at the face of the core). This will keep the chambers in the shell and sleeve in alignment. (See illustration 9.)

Next with the tip of the key or the tip of your tweezers, turn the plug so the keyway is straight up and down. In this position the chambers in the plug will align with those in the shell and sleeve and the Ejector tool should drop down into the plug. Leave the Ejector tool in the core until you have pinned up and capped the first chamber to prevent the chambers in the sleeve and plug from being moved out of alignment.

Continued on page 168



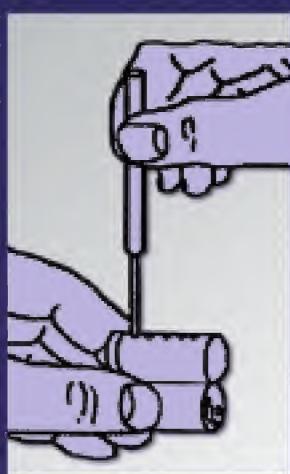
7. To repin the cores use one of the various capping blocks available.

Continued from page 166



8. Insert the tip of the Ejector tool into the back of the core and push the locking lug to the right until it is fully extended.

9. Insert the Ejector tool into the number 6 or 7 chamber.



After you have aligned the chambers as described above, insert the proper pins in the first chamber, the chamber at the rear of the core. Put the bottom pin in first, then the master pin if any, next the control pin and finally the top pin. (See illustration 10.) Now insert a spring into the chamber. Next insert the hand capping tool into the chamber to hold the spring at the proper level and try each of your keys to be sure they work properly. If all the keys work properly place a cap into the chamber and with the hand capping tool carefully tap the cap down into the core. The capping tool and pinning block are designed to seat the cap at the proper depth.

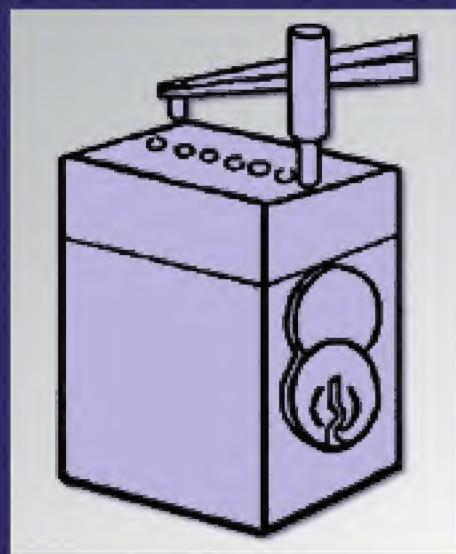
When seating the cap into the core, be absolutely sure the core is fully inserted into the capping block. You can do this by holding a finger against the face of the core while tapping the cap into place. If the core is not fully inserted into the capping block, the chamber in the core will not be in alignment with the chamber in the pinning block.

and the cap can become wedged in the core chamber at a tilt or damage the sides of the chamber preventing the cap from seating and holding position properly.

Note that during the previous explanation I emphasized using the hand capping tool to seat the caps. This is a good tool for the beginner locksmith starting out on a limited budget, however, there is a much more efficient tool available for capping the cores. It is considerably more expensive but if you are getting into servicing large quantities of interchangeable cores regularly, it will more than pay for itself in time saved as well as ease of capping. This heavy duty Capping Press is manufactured and sold by several of the manufacturers of the core as well as A-1 Security Manufacturing Corporation.

PINNING CORES THAT USE SPRING COVERS

The following method is generally used to pin the Falcon Cores that use spring covers. After the core has been unloaded check to determine that all pins have been removed and then rotate the plug about 45 degrees clockwise. Rotate it so the pin chambers in the plug are not in alignment with the chambers in the shell and sleeve. Illustration 11, shows how it should appear. Rotate the plug so the top of the keyway is pointing about 45 degrees to the right as shown.



10. Put the bottom pin in first, then the master pin if any, next the control pin and finally the top pin.

Next align the pin chambers of the shell and the sleeve. Be sure the locking lug is fully extended from the shell. In this condition the bottom pins when dropped into a chamber will come to rest on the surface of the plug. They will not enter the plug chambers. Now insert the Ejector tool into one of the pin chambers to prevent the sleeve from being pushed back into the core. Then set the core in the Falcon type capping block and again check to be sure the locking lug remains projecting from the shell.



11. Rotate it so the pin chambers in the plug are not in alignment with the chambers in the shell and sleeve.

Interchangeable Cores manufactured by Falcon have changed over the years. Currently the key stop and plug retainer is used to secure the shell, sleeve and plug together. Prior to 1986 a "C" ring at the back of the core secured the three parts and also acted as a key stop. There are still a few of this type in service and they should be replaced if you should encounter them.

Though it is possible to remove this retainer ring, it should not be done. The three parts - shell, sleeve and plug - were drilled at the same time and thus become a matched unit. DO NOT DISASSEMBLE THE CORE. There is a good chance it will not work properly after it is reassembled. Additionally, the core cannot be pinned while disassembled. Illustration 12, illustrates this older type of core. Falcon now uses the key stop and plug retainer which is riveted on to the rear of the plug to secure the three parts.

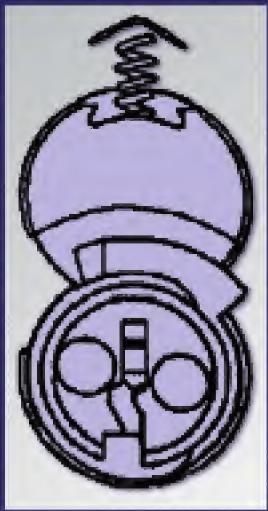
After the core has been prepared as outlined above, load the pins into the shell. Remember to load them from the

Continued on page 170

Continued from page 168

rear of the core, the number one pin chamber. Load them directly from the pin kit to the pin chamber to prevent possible mix up. If you are not sure the pin is the right size, "mike" it before placing it in the pin chamber. Load one chamber at a time. This way if you are interrupted it will be far easier to remember your position when you return to loading the core. Do not load all bottom pins, then all master pins (if any) and so on. Completely load one chamber at a time.

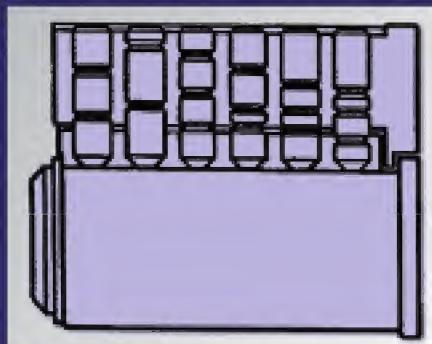
**12. The older
type of core.**



When all the pins have been loaded into the core, check to see that they are all at the same level at the top of the shell. (See illustration 13.) If any stack is higher or lower than the others unload that stack and check to be sure that the proper length was used. The cores that use caps can be loaded and checked in this same manner. The pins do not come to the top of the shell as they do in the Falcon type but it is not difficult to see if they are all sitting at the same level.

Once the core is loaded properly, turn the plug back to its neutral position, keyway straight up and down. (See illustration 14.) All pins should now drop and sit properly in the plug, sleeve and shell. Use your Ejector tool and press down on each stack of pins to be sure they are all properly seated in the plug.

Now place a spring on top of each stack of pins. Place a spring cover of the proper length (6 or 7 pin) over the springs in the dovetail enclosure and place the tapping plate over the spring cover, rib side down. Strike it



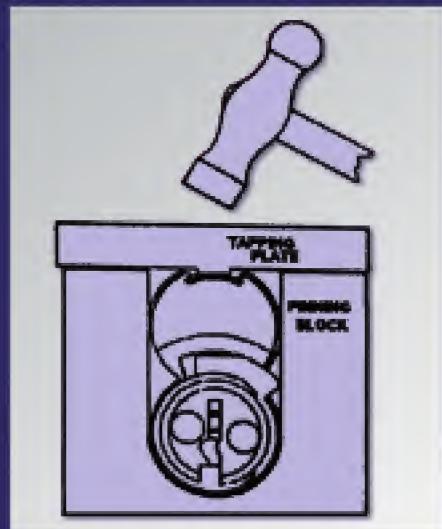
13. Check to see that the pins are all at the same level at the top of the shell.

firmly with a small hammer to wedge the spring cover properly into the dovetail slot. Check to see it is firmly seated and cannot be moved. (See illustration 15.)

**POSSIBLE PINNING
PROBLEMS**

If the pins do not drop into the chambers freely it is probably because of burrs that have developed around the mouth of the chambers. These burrs can occur at the top or bottom of the shell, the sleeve or top of the plug. They can easily be removed by using a drill bit slightly smaller than the diameter of the pin chamber. Carefully twirl the bit between your fingers around the chamber to remove the burrs. DO NOT ENLARGE THE PIN CHAMBER OR ENTRANCE TO THE CHAMBER. If you remove the burrs before pinning a core, seldom will you have trouble with the key sticking or refusing to turn easily. Burrs can be present on new and uncombined cores that are fresh from the factory. It is good insurance to deburr all cores before pinning them, new or used.

If your key does not turn easily and you are sure you have the



**15. Wedge the spring cover
properly into the dovetail slot.**

proper pins in all the chambers, check the depth of cut in each position on the key. Interchangeable cores, because they contain more operating parts than standard cylinders and more critical tolerances, require more accurately cut keys. Don't force the key to turn. To do so can create burrs or wear away the sides of the entrance to the chambers. This in turn can cause the small number 2 or 3 wafers to tip up and jam between the plug and the sleeve or the sleeve and the shell. This will lock you out and force you to destroy a core unnecessarily.

Before capping a chamber lubricate the chamber by putting in a dry lubricant such as Lab Lube, which is a dry Teflon powder. Teflon powder will not mix with water. Graphite can cause pins to gum up and stick. Graphite is not a good lubricant for lock cylinders in cold or wet climates. Use some form of teflon, preferably a dry one. It just takes a drop. As you insert and rotate the key, the lubricant will be distributed in the chamber.

THE A-2 KEYING SYSTEM

The following information pertains to the A-2 system, the main focus of this article. The A-2 system is a 10 step system with increments of .0125".

Bottom Pins

0-110, 1-122, 2-135, 3-147, 4-160, 5-172, 6-185, 7-197, 8-210, 9-222

TNL



**14. Once
the core is
loaded
properly,
turn the
plug back
to its
neutral
position.**

Reed Report

Q. I have had trouble making keys for high security cars such as Lexus, BMW, etc. Is anyone making high security depth keys?

A. Yes, there are high-security space & depth guide keys for cars. In fact, the leader in that business is National Auto Lock (1-800-954-5454). They work on the cars all the time so they know which way to make the sets perform the best. Furthermore, they have the largest selection of high-security space & depth keys found anywhere and all are computer milled for high accuracy.

Q. I need some information on picking auto door locks. There are some I can pick and a lot I can't.

A. In general terms, automobile locks fall into four categories: pin-tumbler, plate tumbler, sidebar, and high security. Each of these types of locks must be treated differently. Below is a brief summary of the different types of locks and things that need to be kept in mind if you want to pick them.

Pin-Tumbler

At one time, these locks were very popular, but today there are very few cars equipped with pin-tumbler locks. In the USA you will most often see these locks on Chrysler products built before 1989, Ford products built before 1985 and on a few older imports. Ford also used a pin-tumbler trunk lock on many vehicles up until 1996.

Pin-tumbler car locks are much like pin-tumbler residential locks except that the pins are usually smaller and closer together. As a general rule, the pin-tumbler auto locks can be picked, but require skill and patience. The older Chrysler products can be particularly challenging because they use six different depths.

Plate-Tumbler (often called wafer-tumbler)

These locks are the most common locks in use today for automotive door locks. In the USA, you will see these on most of the Chrysler products made after 1988, most Ford products made after 1984, many GM products made after 1993 and almost all moderately priced imports. These locks are built somewhat like a cam lock and many of these locks



Yours For Better Security,



Bill Reed

Scatter Shooting while remembering . . . Jerry Connelly

are very easy to pick. Some of the easiest plate-tumbler locks to pick are on the "10-cut" Ford products made from around 1985 to 1995. The newer Ford "8 cut" locks are slightly harder to pick.

The GM plate-tumbler locks can be very challenging to pick, but pick best for me with a rocker style pick. The GM plate-tumbler locks can also be very challenging to pick, but seem to pick best with a rocker style pick. The GM plate-tumbler locks are easy to identify by the placement of the keyway in the face of the lock. If the keyway is in the center of the lock face it is a plate-tumbler lock; if the keyway is offset to one side of the lock face it is a sidebar lock.

Sidebar Locks

These locks are used primarily on GM vehicles built from 1935 to 1994. However, even though GM began using some plate-tumbler door locks in 1995, many new GM vehicles still come equipped with sidebar door locks. Sidebar locks require special techniques and tools, such as the R & D pick set, in order to be picked. As a general rule, it is best not to even attempt picking sidebar locks- especially if you don't have the proper tools and experience.

High Security Locks

There are several different types of these locks, and all are extremely difficult to pick. You will find these locks on the high-end import vehicles such as BMW, Mercedes, Volvo, Saab, Lexus and some Infiniti models. I don't recommend attempting to pick this type of lock. **TNL**

If you have a question for Bill Reed, would like to talk to him concerning anything in this column, or want to attend a Bill Reed seminar at one of the locations listed below, you may contact Bill directly on his toll free number at: (888) 801-2003.

June 6	Seattle, WA	Oct. 11	Chicago, IL
July 18	Columbia, SC	Oct. 17	Omaha, NE
Aug. 1	Kansas City, MO	Nov. 7	Salt Lake City, UT
Aug. 15	Memphis, TN	Nov. 21	Tulsa, OK
Sept. 26	New Braunfels, TX	Dec. 5	Orlando, FL

Value-Added Selling

by Carol Brzozowski-Gardner



The concept of value-added selling can be likened to riding in a car. Think about it: when it comes to selling your company's services, do you sit in the back seat and let pricing drive the deal, or are you at the wheel?

Traditional selling, based on price only, is a reactive type of selling: you are focused on yourself, trying to create a need and make a deal.

In value-added selling, you are pro-actively at the helm of the deal. The deal is customer-focused: you demonstrate to the customer that you understand his or her needs, you have the resources to solve the problem and can make a difference.

Using the strategy of value-added selling enables your company to focus on all of the extras a company provides that the price, on face value, may not reflect. This is especially useful in a market where pricing is generally equal among competitors or when your company comes out slightly higher in pricing.



*Don't panic!
We have Security
Exit Devices.*

[Click here for more information](#)

**Ten Key Strategies Of
Value-Added Selling:**

1. Remember that you're selling for the customer and not against the competition.

2. Use assertive and creative marketing techniques. Compile a list of possible clients, send out letters, phone for appointments, send follow-up letters. In your letters, consider attention-getting creative mailing techniques, such as overnight mail. Enclose educational literature with a personal note to the key decision-maker. Ask past and current clients for referral letters and include those with your marketing literature. By the time the appointment comes, the client is familiar with you and what you will be saying.

Called "antifreeze letters," these letters take the chill out of a cold call and put you in a position that makes you and your company stand out from among the rest.

3. Tailor your services to meet the needs of your clients. If your client wants the job done on a Saturday afternoon and you typically don't work Saturday afternoons, it may be time to reconsider the idea of flexibility.

4. If you're on par with the competition or charge more, be able to explain to your client why that is so. These "value-added" aspects of your business may include top-of-the-line equipment and inventory; reputation for doing the job right the first time and in a quality manner that the job will last; highly-trained employees; an accident-free record; and being on call 24 hours a day.

5. Examine your operation and ask yourself: If I were a potential client, would I hire my company?

6. Make sure everyone in your company is on the same page, from the top management to the receptionist. Motivational office meetings help to this end. Everyone should know what is

expected of them in order to best meet clients' needs.

7. Have no hidden charges.

8. Ask your clients open-ended questions about the service they need and evaluate how your company can accommodate the client's needs. Look for details, not mere "yes" or "no" answers.

9. In long-term relationships with clients, ask yourself this question: "Is my company treating this client the way we offered to do so when we first started doing business with him?"

10. Begin to adapt the qualities of a value-added seller: integrity; empathy (show your customer you understand his problems and can partake in the solution); initiative (take marketing efforts by the horn); knowledge (know your products and services) and courage (taking steps to do things differently than you have before). **TNL**



**To be a World Leader You Need Quality Products,
Innovative Technology and Strong Partners.**

[Click here for more information](#)

**The
National
Locksmith's**

**July 1998
Planning Calendar**

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 Canada Day	2	3 The National Locksmith Closed	4 Independence Day
5	6 Lockmasters Course CCTV Washington, D.C. 1-800-654-0637	7 Lockmasters Course CCTV Washington, D.C.	8 Lockmasters Course CCTV Washington, D.C.	9 Lockmasters Course Simplex Certification Washington, D.C. 1-800-654-0637	10 Lockmasters Course Simplex Certification Washington, D.C.	11 Lockmasters Course Push Button Manipulation Washington, D.C. 1-800-654-0637
12	13	14	15	16	17	18 M BA Training Combination Lock Technology Nicholasville, KY 1-888-622-5495 Bill Reed Seminar Columbia, SC 904-476-2799
19	20	21	22 Institutional Locksmith' Association Annual Education Symposium Sargent M anufacturing Co. New Haven, CT (301) 645-7786	23 Institutional Locksmith' Association Annual Education Symposium Sargent M anufacturing Co. New Haven, CT	24 Institutional Locksmith' Association Annual Education Symposium Sargent M anufacturing Co. New Haven, CT	25 Institutional Locksmith' Association Annual Education Symposium Sargent M anufacturing Co. New Haven, CT
26	27	28	29	30	31	



HPC has it all:
Key Machines,
Software, Books, Car
Openers, Pick Sets,
Tools, Door Guards,
and Key Cabinets

[Click here for more information](#)

BUSINESS BRIEFS

Hillenbrand Industries Purchases Medeco

Hillenbrand Industries, Inc. announced that it had reached an agreement in principle with Assa Abloy AB, Stockholm, Sweden to sell its wholly owned lock subsidiary Medeco Security Locks, Inc., located in Salem, Virginia. The transaction is subject to regulatory approval and is expected to close later this year.

Detex Achieves ISO 9002 Certification

Detex Corporation's New Braunfels based manufacturing facility has achieved ISO 9002 certification from Factory Mutual, Inc. ISO 9002 defines all aspects of a quality management system and certification is the mark of a company's world class commitment to quality.

H.E.S. Welcomes National Sales Manager

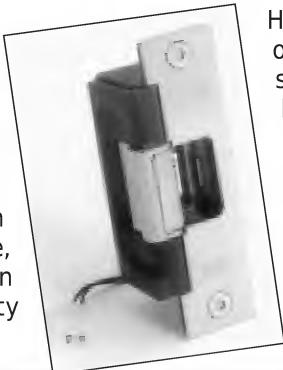


Hanchett Entry Systems announces the addition of Stephan Good as their new National Sales Manager.

Steve has a business degree from Stanford and extensive sales and management experience with a large international corporation.

Security Lock Stocks LCN and Simplex

Security Lock now carries the entire LCN line. In addition to LCN architectural grade manual closers and power operators, Sentronic® units, in every finish, cover style, cylinder and arm function are in stock at Security warehouses.



Security Lock is also augmenting their inventory of Simplex residential and commercial products. Security Locks Distributors stocks every replacement part and accessory, in all sizes, finishes and functions.

For additional information call: 800-847-5625; Fax: 800-878-6400; E-mail: SECLOCK@IX.NETCOM.COM; Web: <http://www.seclock.com>.

Ultra Hardware Acquires Ferum Co., Inc.

Ultra Hardware Products LLC has acquired the operating assets of The Ferum Co. Inc. of Pine Brook, NJ. Ultra is part of Arch America Company, a \$400 million holding company.

ALOA Establishes Legislative Program

Tim McMullen has been named the legislative manager for the Associated Locksmiths of America (ALOA). As the manager of one of ALOA's newest and most intensive programs, McMullen will be responsible for monitoring legislation at the federal and state levels, focusing on bills that specifically affect the locksmith industry.

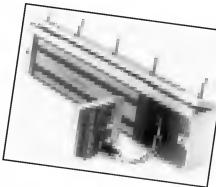
JLM Stocking Hanchett, Dynalock and Strike-O-Matic

JLM Wholesale is now stocking the entire line of Hanchett Entry System products, Dynalock's electric security hardware and Strike-O-Matic.

H.E.S.'s line of electric strikes has been designed with the strength, durability and versatility needed to

accommodate virtually every type of lockset on the market.

The DynaLock family of products includes electromagnetic locks, power supplies, access controls, exit controls and consoles.



The Strike-O-Matic 2000 is for use with Dor-O-Matic and Kawneer concealed vertical rod exit devices. Available in all voltages, duties, finishes, fail-safe or fail-secure, single or double door configurations.

For information call 800-522-2940, or fax 800-782-1160.

Intellikey Appoints Wayne Wilkerson

Wayne O. Wilkerson has been named President and Chief Executive Officer of Intellikey Corporation in Melbourne, Florida. Wilkerson's career includes nearly three decades of administrative and marketing

management with some of the high security lock industry's leading companies. Prior to joining

Intellikey, Wilkerson served as Vice President of Sales and Marketing for Ilco Unican Corporation.

American Security Appoints Jenkins and Consolidates Operations

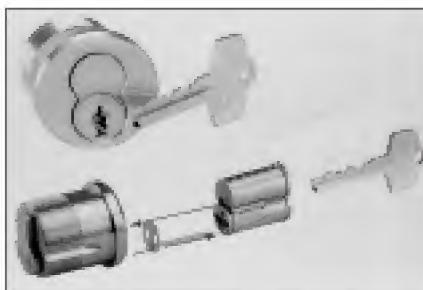
American Security Distribution has named Dennis H. Jenkins vice president of sales and marketing. With this appointment, Mr. Jenkins joins American's executive management team, and the company combines its separate sales and marketing positions into one, providing increased opera-

tional efficiency and a more effective organizational structure.

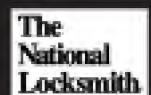
Distribution and warehouse operations are being consolidated into nine locations throughout the United States. In addition, the company maintains three distribution and warehouse operations in Canada to complement its North American distribution activities.

The Ultimate Key Control System

Ace Lock and Security Supply has an innovative Flexcore Interchangeable Core System which is so revolutionary it's been granted a U.S. patent. The Flexcore System from Arrow Architectural Hardware offers a unique core security feature in which standard interchangeable keys can not breach the lock cylinder. Only the patented Flexcore key, impossible to duplicate without authorization, can operate locks with the Flexcore cylinder.

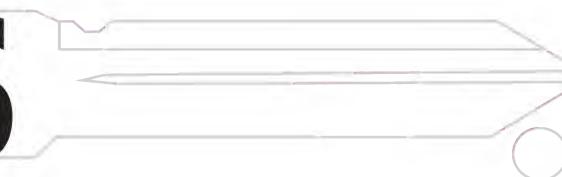


For more information contact Ace Lock and Security Supply at 1-800-ACE-LOCK, or fax: 1-800-ACE-FAX4. E-mail is acelock@acelock.com. **TNL**



KEY CODES

1998 Subaru Forester
30001-37850 - Part 3



Key Blanks

Ilco - X251

Ilco/EZ - SUB1

Curtis - DA34

Jet: DA34

HPC 1200CM

Code Card: CF304

Cutter: CW-1011

Stop: Tip

Framon

Cut Start: .337

Cut to Cut: .083

Spacing Block: #5

Cutter: FC-8445

Key Clamping: Tip stop key.

Align tip of key with left side of vise jaw.

A-1 Pak-A-Punch

PAK-N4

Curtis

Cam: DM-40

Carriage: DM-41

Cut to Cut Spacing: .083

Number of Cuts: 10

Note: Codes printed bow to tip.

Key Gauged: Tip

M.A.C.S.: 2

Spacings:

1=.915 6=.50

2=.833 7=.418

3=.750 8=.335

4=.667 9=.252

5=.584 10=.169

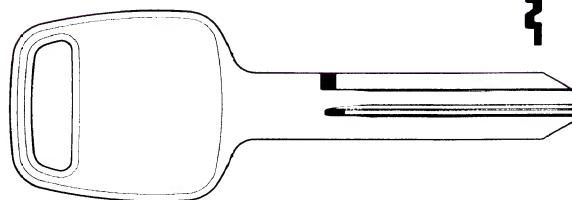
Depths:

1=.333

2=.307

3=.281

4=.256



36001 3324421211	36020 1323223311	36039 3131234211	36058 3122313211	36077 2223433231	36096 2213213421
36002 3133222131	36021 1112233121	36040 1322334331	36059 2234312321	36078 3123422321	36097 2231312311
36003 3342312421	36022 1312311221	36041 3111323221	36060 2244332421	36079 2213213221	36098 3131232431
36004 3331222131	36023 3112211321	36042 3322344211	36061 3132233321	36080 1113232211	36099 3313321221
36005 3133113431	36024 3324321311	36043 1332132231	36062 1344231221	36081 1122344211	36100 1112342421
36006 2223421131	36025 1331324321	36044 3331112331	36063 1344211221	36082 2213244421	36101 2233423231
36007 1132243311	36026 1124324211	36045 2213421231	36064 2212343121	36083 1133223431	36102 2213313321
36008 1332233321	36027 3134421221	36046 1312424431	36065 1123342311	36084 2231231221	36103 2233122211
36009 1321332431	36028 2212232131	36047 2243111331	36066 2212231321	36085 1134243311	36104 3133222331
36010 2243442211	36029 1123331131	36048 2213442111	36067 1122421321	36086 3111223121	36105 1132233231
36011 3123334211	36030 1313212231	36049 3334231321	36068 3134423111	36087 1123423331	36106 2242311231
36012 2244421321	36031 3324211331	36050 3112223331	36069 3344332131	36088 3342131321	36107 3133113231
36013 2213331211	36032 2234322331	36051 2212243311	36070 1324321331	36089 1134221311	36108 3332212311
36014 2232342311	36033 3313113231	36052 3334421311	36071 1131321331	36090 1321324331	36109 1321221331
36015 1123324331	36034 1134424231	36053 1343122131	36072 1313342231	36091 3124422311	36110 3312443331
36016 3334233121	36035 3342234231	36054 3322433131	36073 2231324321	36092 1324432121	36111 1113344321
36017 2223342131	36036 3124243121	36055 1133223321	36074 3113311321	36093 3343112321	36112 3323421131
36018 3324332131	36037 331133431	36056 2244313321	36075 1321133311	36094 3122134331	36113 2212442211
36019 1342342321	36038 1134433431	36057 3113223211	36076 1132243331	36095 3131131231	36114 2212312431



1998 Subaru Forester

30001-37850 - Part 3

36115 1124224311	36185 3113224311	36255 3332432221	36269 3312442211	36283 2233322211	36297 1324421231
36116 1132234331	36186 2213323421	36256 3112243331	36270 1124342321	36284 2232334231	36298 2243421311
36117 1132312431	36187 1312442121	36257 3322432321	36271 3121234421	36285 3132432221	36299 1123132431
36118 3334434221	36188 3344312221	36258 3131222131	36272 1123124311	36286 3122311211	36300 1322244311
36119 1312424321	36189 2233324231	36259 3134434221	36273 3332113221	36287 3121124421	36301 3123443331
36120 1113421321	36190 2221132211	36260 1123123121	36274 1313223431	36288 3324332421	36302 3123442231
36121 1323324331	36191 3344233111	36261 3344212431	36275 2224422311	36289 2244213311	36303 3111223321
36122 1112423131	36192 3113313321	36262 3321134211	36276 1342433111	36290 1342324431	36304 3124434431
36123 1312223331	36193 1324223321	36263 1124422421	36277 1332442211	36291 3313122431	36305 1113222311
36124 2233133211	36194 3124332111	36264 3343221311	36278 2232332231	36292 3132233431	36306 2224423431
36125 1331233421	36195 1124322231	36265 2234324221	36279 3332224321	36293 1342422131	36307 1311312421
36126 1132243111	36196 3132231231	36266 3124334421	36280 3312213431	36294 1134232131	36308 1313224221
36127 1133443431	36197 1133421231	36267 3344323311	36281 1332243421	36295 2232332121	36309 3121223311
36128 2213123311	36198 3323124331	36268 3343112211	36282 1343111221	36296 3334431121	36310 1323312431
36129 3112423311	36199 1112431231				
36130 1343112431	36200 1342244311				
36131 3312134231	36201 3322442421				
36132 3343223311	36202 2212442121				
36133 2213342431	36203 1323111221				
36134 1123442321	36204 2242132131				
36135 1344333121	36205 2243211231				
36136 3132211321	36206 3322243231				
36137 3312322311	36207 3331122321				
36138 1342213311	36208 1343124311				
36139 1322443431	36209 2213323311				
36140 3113123221	36210 3312334431				
36141 2211332131	36211 2211234321				
36142 2212444211	36212 1322342231				
36143 3313311231	36213 3344244221				
36144 3123342331	36214 1342112421				
36145 3312432311	36215 3331124211				
36146 1124312421	36216 3113344321				
36147 3131221211	36217 3324311321				
36148 1343123211	36218 1124442331				
36149 1133223121	36219 3343124421				
36150 3334221331	36220 3343224431				
36151 1121332231	36221 1123231231				
36152 1113321221	36222 2242243231				
36153 2212134321	36223 2233222111				
36154 1333113321	36224 1331322231				
36155 2243423221	36225 1323223331				
36156 1312431231	36226 1321211231				
36157 1113242331	36227 3322443231				
36158 1324231311	36228 3112323321				
36159 3342213421	36229 3312332431				
36160 1323324221	36230 2234234221				
36161 3331123221	36231 1132233121				
36162 1322343221	36232 2243113221				
36163 3112233211	36233 3344342121				
36164 2223334231	36234 1344312221				
36165 2234443311	36235 1333422331				
36166 2211323421	36236 3331231311				
36167 2212431211	36237 2232311221				
36168 2221332231	36238 3331244331				
36169 1342334421	36239 2233223211				
36170 3344213221	36240 2224434431				
36171 1124424311	36241 1332113331				
36172 1343213231	36242 1134442321				
36173 2211321331	36243 2212444321				
36174 2223343121	36244 3132223131				
36175 1322421321	36245 2233442111				
36176 2223321121	36246 1121243421				
36177 3122213421	36247 1113432431				
36178 2233243121	36248 3342331231				
36179 1122213331	36249 1324422311				
36180 1323312321	36250 1324312331				
36181 1331134221	36251 1133112331				
36182 2232113421	36252 3111343421				
36183 3322312331	36253 3132421311				
36184 3312223421	36254 3113213421				



Click here
for more
information

Providing
quality tools,
parts, and
service
for the
security
professional.



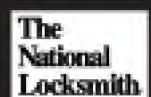
1998 Subaru Forester 30001-37850 - Part 3

36311 1134324421	36324 3123344331	36337 3113222131	36350 1123233121	36363 3324213331	36433 1133344211
36312 3324231131	36325 2233312311	36338 1332431211	36351 3123312431	36364 1322311211	36434 3313243321
36313 1332224431	36326 3123223331	36339 3122332311	36352 1333224431	36365 3331212231	36435 1343223131
36314 3313244221	36327 1332242211	36340 3344332311	36353 2233224431	36366 3313242311	36436 3313211331
36315 1122312311	36328 1132124331	36341 2243344331	36354 1331342211	36367 1333442221	36437 2213423211
36316 2233213221	36329 1332312431	36342 3344223321	36355 1322442111	36368 3343311221	36438 3113123331
36317 1324331121	36330 3122424331	36343 2244243121	36356 1323244321	36369 1312434311	36439 3112442321
36318 2221324421	36331 3332112211	36344 3344231221	36357 3122424421	36370 3342124431	36440 1124321311
36319 3123321231	36332 3342132331	36345 1343422431	36358 2234324421	36371 1131132421	36441 2223444321
36320 3343111221	36333 2231332131	36346 1332234421	36359 2243213231	36372 3122443431	36442 3324312311
36321 1333424331	36334 3313342211	36347 3321324421	36360 2231222131	36373 1344323111	36443 1323243131
36322 2242231331	36335 3343123121	36348 2242443231	36361 2224433421	36374 3112432331	36444 2211342121
36323 2223123231	36336 1332111331	36349 2232212331	36362 1134312431	36375 1132431321	36445 2213343111
				36376 1333242331	36446 3324431221
				36377 1132334211	36447 1112424321
				36378 2233223121	36448 1332242231
				36379 1312434221	36449 1343421221
				36380 2231113321	36450 2243324311
				36381 3313312221	36451 3132233121
				36382 2244433131	36452 3312433121
				36383 1113243321	36453 2233422331
				36384 3334443311	36454 1133424311
				36385 3321132431	36455 1312333221
				36386 3134213231	36456 2213344211
				36387 1123122131	36457 3113213331
				36388 2233424331	36458 1333213311
				36389 1312431321	36459 1334324221
				36390 1134342221	36460 2233312221
				36391 1123213231	36461 2233432211
				36392 3121332321	36462 2233433221
				36393 3122112421	36463 3124211221
				36394 2212331131	36464 1313222131
				36395 1112344221	36465 1324424311
				36396 3134422231	36466 3332444231
				36397 1324322211	36467 3342334421
				36398 3331224421	36468 3343244431
				36399 1332334231	36469 3342423321
				36400 1322111321	36470 1333421211
				36401 3123343321	36471 3324333211
				36402 1322121131	36472 1323223111
				36403 2243233431	36473 1331133321
				36404 3323123211	36474 3322113321
				36405 2223443221	36475 3342423431
				36406 3124442221	36476 3112332321
				36407 2231342321	36477 3343122421
				36408 2231331211	36478 1132331131
				36409 3133244331	36479 3344233221
				36410 2231322431	36480 2244332111
				36411 2221134231	36481 1131234321
				36412 3122444221	36482 3312331311
				36413 1332113311	36483 1123424231
				36414 3121231121	36484 2231134331
				36415 2212243111	36485 1123434421
				36416 3124334331	36486 1134332321
				36417 3123121231	36487 1123211321
				36418 1311243321	36488 1132132231
				36419 1334331131	36489 1113221231
				36420 2234423221	36490 1112233231
				36421 1131124431	36491 2231223121
				36422 2233421211	36492 3312231321
				36423 1323122331	36493 3123332431
				36424 1322123421	36494 2244322321
				36425 1344342321	36495 2211124431
				36426 1331221231	36496 1313324211
				36427 2234432131	36497 2234431121
				36428 1321322421	36498 3123112231
				36429 1132342331	36499 3344221321
				36430 3342231131	36500 3122434431
				36431 1342322431	36501 3122112331
				36432 1123342131	36502 3323421221



**Every Installation
Is a Self-Portrait
Of the Person Who Did It.
Autograph Your Work
with Excellence.**

[Click here for more information](#)



1998 Subaru Forester 30001-37850 - Part 3

36503 2243313421	36573 2212432421	36643 1124231311	36656 1311344321	36669 1113421231	36681 2223111331
36504 3131231221	36574 3321233121	36644 1332223131	36657 3121244211	36670 3344224221	36682 3342234211
36505 2233422311	36575 2234213321	36645 2243113311	36658 1123421221	36671 2243432421	36683 3122431311
36506 1122432231	36576 2244312331	36646 1132232331	36659 3324432431	36672 1122113431	36684 2221342111
36507 3331223231	36577 2211213421	36647 1132344331	36660 1342323421	36673 312112211	36685 3133134221
36508 3123431121	36578 2223322331	36648 3113243211	36661 3331244221	36674 3134442211	36686 1324234211
36509 3313322321	36579 1311221231	36649 1134224321	36662 3124312311	36675 3121224231	36687 3324244311
36510 3331123311	36580 3133433111	36650 3132231321	36663 1321132231	36676 1112443221	36688 3122431331
36511 1122422131	36581 3321342221	36651 1342344431	36664 2234332431	36677 3121343211	36689 2234334321
36512 3322121331	36582 1313422331	36652 2213444311	36665 3113112331	36678 3321211321	36690 3134443331
36513 3343242421	36583 1113442421	36653 1323422421	36666 3344432231	36679 3321122311	36691 1323421221
36514 3122323421	36584 1334422211	36654 3332124421	36667 3122112311	36680 3312333221	36692 3334223311
36515 3134234331	36585 2212433211	36655 1112442321	36668 1113344431		
36516 3313244311	36586 1332132431				
36517 2212234331	36587 1124243121				
36518 2232211231	36588 2211243231				
36519 1113312421	36589 3322133121				
36520 2242132111	36590 1344233131				
36521 3344343311	36591 1133122431				
36522 1312312321	36592 2213432121				
36523 3322424331	36593 2223433431				
36524 1343324421	36594 3332431321				
36525 3123243331	36595 1342231131				
36526 2244332221	36596 3334224211				
36527 3334422211	36597 2242242311				
36528 2211333121	36598 3124421211				
36529 1321331331	36599 1311244421				
36530 1312433231	36600 1123443421				
36531 1132433231	36601 1332134231				
36532 2242311321	36602 3113324321				
36533 3132122421	36603 1332423111				
36534 1322243231	36604 3113133211				
36535 3324434431	36605 3121133421				
36536 3133432121	36606 3113132131				
36537 1132133311	36607 2223344311				
36538 2223442211	36608 3113331121				
36539 1133212211	36609 1344212231				
36540 1332243111	36610 2223442431				
36541 1132334231	36611 2231221321				
36542 3322132331	36612 1122234231				
36543 1342442421	36613 3323423421				
36544 3343211321	36614 2221332121				
36545 3134423331	36615 1123112231				
36546 1133434231	36616 2211133431				
36547 3322231311	36617 2234424211				
36548 2233443211	36618 3134433121				
36549 3344421211	36619 1112442431				
36550 3122433421	36620 2213134421				
36551 1121324221	36621 1331344211				
36552 1343342221	36622 1113344211				
36553 3124422131	36623 312344431				
36554 3122133231	36624 3334244211				
36555 3111243121	36625 1343322311				
36556 2223331131	36626 1324243231				
36557 3124433421	36627 3112321121				
36558 2234432111	36628 2242433421				
36559 3123443131	36629 1131344431				
36560 3312344221	36630 2231233421				
36561 1322243211	36631 1334224231				
36562 3343442211	36632 2233423211				
36563 1134432311	36633 2233342431				
36564 2211312421	36634 1342324321				
36565 1123223131	36635 3322243121				
36566 3321124331	36636 1121243221				
36567 3122324431	36637 2213321311				
36568 1313322431	36638 3112243111				
36569 2244242111	36639 2233424221				
36570 1122334221	36640 1324343221				
36571 1312324421	36641 3122432211				
36572 3321244431	36642 1131232211				

Continued on page 186

medeco[®]
HIGH SECURITY LOCKS

Integrity.
Ingenuity....
security solutions.

[Click here for more information](#)



Continued from page 183

1998 Subaru Forester 30001-37850 - Part 3

36693 3343223111	36725 1344431331	36757 1334332121	36789 2242111231	36821 1312443221	36853 1342233131
36694 1343423421	36726 2244431331	36758 3122331231	36790 3312212311	36822 1321342331	36854 1332123431
36695 1342313211	36727 2212442321	36759 3111243231	36791 1321243131	36823 2211243321	36855 3122334421
36696 3123423421	36728 1342442331	36760 1322423321	36792 1321332321	36824 3131233221	36856 1131244421
36697 3343313421	36729 1132211231	36761 1134234221	36793 1323211211	36825 1123443111	36857 3324443321
36698 3132444321	36730 3311234231	36762 2243243131	36794 3313324431	36826 1134332231	36858 1343124421
36699 1334224211	36731 3124244221	36763 1133312421	36795 3312132211	36827 1343324331	36859 2224433111
36700 1311232431	36732 1342343421	36764 2212233121	36796 2232311331	36828 1133112421	36860 3134224321
36701 1313424221	36733 1324333121	36765 3113243231	36797 3133131231	36829 1343223221	36861 1334433431
36702 3344232431	36734 1333224421	36766 2234311311	36798 3312432421	36830 3113133121	36862 1334344331
36703 3343121321	36735 1311344231	36767 1343311311	36799 1313444331	36831 3111343311	36863 3312244211
36704 2224324211	36736 3132433211	36768 1313442311	36800 3331234431	36832 2244211311	36864 1334332211
36705 3313223211	36737 3324224331	36769 3332233121	36801 3321213321	36833 3123224231	36865 1312223311
36706 3331132131	36738 1112343211	36770 3332442431	36802 3123323121	36834 1133122121	36866 1312212331
36707 3313224331	36739 1123322311	36771 1132424431	36803 1343224431	36835 3123111221	36867 2224432121
36708 2213323111	36740 3332223311	36772 1313323311	36804 1323422321	36836 3124334221	36868 1342332421
36709 1332111221	36741 3124213421	36773 2211223211	36805 3321334431	36837 1134443111	36869 1123131221
36710 2243322331	36742 1131344321	36774 3111243431	36806 1123433121	36838 2223342331	36870 3113223431
36711 2232244231	36743 3113323111	36775 1124422331	36807 1313244421	36839 2224321311	36871 3343123231
36712 1131324231	36744 2234244321	36776 1113323221	36808 1113242131	36840 3121343321	36872 3332442121
36713 1124343221	36745 1132322331	36777 1342213221	36809 3132433121	36841 3123224321	36873 3322323111
36714 3343222431	36746 2213324321	36778 1134332431	36810 1134431211	36842 1313242311	36874 2231223231
36715 3322234211	36747 2213221321	36779 3133244311	36811 2244322121	36843 1134433211	36875 2212332211
36716 2212133131	36748 2211343421	36780 1312332431	36812 2224433131	36844 3321113331	36876 2243443111
36717 1324211311	36749 3312423131	36781 1342113321	36813 3343123321	36845 1124333211	36877 3122134311
36718 2244244221	36750 3123312211	36782 3122343221	36814 1123442121	36846 1122243321	36878 2223433121
36719 1331112221	36751 1311232231	36783 3123331131	36815 1134434311	36847 2242442131	36879 2211343311
36720 3342224421	36752 3124443231	36784 2233124321	36816 1134334431	36848 3122431221	36880 1333421121
36721 1124421231	36753 3131222111	36785 1343321211	36817 1312244321	36849 3122442331	36881 1334243221
36722 3332122111	36754 1324221121	36786 3131123221	36818 1112434421	36850 2243111221	36882 2243224231
36723 2224344231	36755 2234344331	36787 3334432221	36819 2242442331	36851 1334423331	36883 1123312231
36724 3133443431	36756 2223432131	36788 1113442331	36820 1123244321	36852 3113423231	36884 1122234431

NATIONAL
AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

www.laserkey.com



The
National
Locksmith

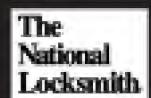
1998 Subaru Forester 30001-37850 - Part 3

36885 3124331231	36918 3343423111	36951 2242133121	36984 2221342311	37015 3133232431	37046 3322211311
36886 3322332131	36919 3122243121	36952 2244244331	36985 3312244231	37016 3312232131	37047 2244223211
36887 1344433311	36920 3312124311	36953 1133433111	36986 3311233131	37017 1123124331	37048 2231344231
36888 3123121321	36921 1322422111	36954 2211244331	36987 3124423121	37018 1321312321	37049 2234421331
36889 1133422421	36922 3132213431	36955 1344211331	36988 1134432221	37019 3121134231	37050 3122434231
36890 3113313211	36923 2233242331	36956 1331242131	36989 1312334321	37020 2212113331	37051 1344324231
36891 1323224231	36924 2221312321	36957 2244431221	36990 1311332311	37021 1113223321	37052 3344313321
36892 1332132321	36925 1313323421	36958 2234344311	36991 3344331121	37022 3321334321	37053 3331133121
36893 3121243131	36926 3313443231	36959 1331133211	36992 3311124431	37023 2243212331	37054 3133243321
36894 3122113231	36927 1343222431	36960 2211332421	36993 1132231231	37024 2234422211	37055 3111243211
36895 3334234311	36928 2213433421	36961 3313324211	36994 3121224431	37025 1121123321	37056 2232432111
36896 1124243211	36929 3133123221	36962 3344331231	36995 3322442311	37026 1332444211	37057 1344212431
36897 1344223121	36930 2213344321	36963 2232133131	36996 3344423321	37027 1344213421	37058 3342132221
36898 1113444311	36931 1312423131	36964 2242433311	36997 2212444231	37028 1123423131	37059 1134423111
36899 3122132421	36932 1124331231	36965 2242242131	36998 1133432231	37029 3124344321	37060 3111334311
36900 2211123421	36933 2212132431	36966 3344243231	36999 1123342421	37030 1124332221	37061 3323244431
36901 3334431321	36934 3321224321	36967 2242211331	37000 3312123121	37031 1332442431	37062 1324443231
36902 1321132121	36935 1313223211	36968 3324431331	37001 3322322431	37032 1334224431	37063 2212234421
36903 1334434221	36936 1311324431	36969 1123321121	37002 1312223421	37033 2213112221	37064 1332233231
36904 1112433231	36937 2223423421	36970 1334213231	37003 1343421131	37034 3312313221	37065 3112124331
36905 3122433311	36938 1342244331	36971 1331221121	37004 1313242111	37035 3312243221	37066 1333442421
36906 3134422321	36939 1344422331	36972 3123111331	37005 1132231211	37036 1112234221	37067 1334424231
36907 3324432211	36940 3334223421	36973 2243213431	37006 1343221131	37037 2211332331	37068 3322131231
36908 3343122331	36941 1342123331	36974 2234242231	37007 3324422131	37038 2224432211	37069 3123311331
36909 1344433221	36942 1342421321	36975 1322112311	37008 1344313321	37039 3324422111	37070 1124311321
36910 2223343211	36943 3321234221	36976 3334233211	37009 2223112431	37040 2242134421	37071 3122342211
36911 2231243321	36944 1112432421	36977 3132442211	37010 2213343421	37041 3323312231	37072 1121123231
36912 3322342431	36945 1322432431	36978 3321323321	37011 1134233231	37042 1134232111	37073 223424421
36913 2233123221	36946 1133124431	36979 3312331221	37012 1343443331	37043 3313313211	37074 2212243421
36914 1343212311	36947 2232332321	36980 1124432431	37013 2211312221	37044 1343343121	37075 1332211211
36915 1112332321	36948 1121343121	36981 3324234431	37014 3311342121	37045 1112231321	37076 1324344321
36916 3112321321	36949 3121323211	36982 1344222331			
36917 1321342131	36950 2233434211	36983 1334443131			



**Choose S&G Comptronic
electronic safe locks for...security...
technology...tradition.**

[Click here for more information](#)



1998 Subaru Forester 30001-37850 - Part 3

37077 1334434421	37109 2211134421	37141 2243324221	37173 1344432431	37205 2212333111	37237 1324422331
37078 3132423311	37110 1312423421	37142 3342244331	37174 1311323421	37206 3122123311	37238 2244431131
37079 1342244221	37111 3122433111	37143 2223433211	37175 3112344221	37207 3313442331	37239 1112434331
37080 1124321331	37112 3132234421	37144 3322342211	37176 1322443211	37208 1333212211	37240 3123442121
37081 3113344231	37113 1131344231	37145 1134312211	37177 3343443111	37209 1334312231	37241 3122133121
37082 2242133231	37114 1343443311	37146 3312221331	37178 3113322231	37210 1331213331	37242 2224424421
37083 2244224421	37115 1334342311	37147 3342232431	37179 3334244231	37211 1313243321	37243 1312443111
37084 3112344421	37116 3313424421	37148 3323423311	37180 3332122421	37212 1131232431	37244 1132324421
37085 2243443221	37117 2223443111	37149 1342443431	37181 1122442131	37213 1113312331	37245 1123243131
37086 1322323421	37118 3324234211	37150 1342431331	37182 1134324311	37214 3134244321	37246 3313212431
37087 1134221131	37119 2213423431	37151 1332443111	37183 2212213231	37215 3122343421	37247 3331224331
37088 3122343311	37120 2243332431	37152 1343313221	37184 1312231321	37216 2244311231	37248 3123122311
37089 3321133421	37121 3313321311	37153 1323223131	37185 3112133131	37217 3112423131	37249 3344321221
37090 2223134231	37122 3122331321	37154 1324211331	37186 3312221311	37218 1331344231	37250 1322432121
37091 3342321131	37123 3131243231	37155 1311244221	37187 1122243121	37219 2224334311	37251 3324433311
37092 1311321331	37124 1344343111	37156 1314433231	37188 1343243331	37220 1313343311	37252 3342132421
37093 1324433221	37125 223311231	37157 3122131231	37189 1332432221	37221 1132322111	37253 3113422131
37094 1323321121	37126 3111224311	37158 2223322131	37190 3311223211	37222 1321122331	37254 2244234321
37095 1124342121	37127 2242313211	37159 3342324321	37191 1124332311	37223 1132112431	37255 2234433321
37096 1132433431	37128 2234424321	37160 3112224431	37192 1334433121	37224 1344222311	37256 2223442231
37097 2224344321	37129 3121233431	37161 1123323321	37193 1123324221	37225 1343344311	37257 1332321321
37098 3343422231	37130 3313323221	37162 2243123431	37194 3322343311	37226 1132434421	37258 2243223111
37099 1134332211	37131 3313212231	37163 3342224311	37195 1121342311	37227 1113443211	37259 1332433431
37100 3321244211	37132 2243211321	37164 2221324331	37196 2232244211	37228 1112342311	37260 1342321331
37101 3332132231	37133 1112312431	37165 1344342211	37197 1334221311	37229 2242113211	37261 3111242331
37102 2243232131	37134 3131223321	37166 313124421	37198 1321234331	37230 3131124321	37262 3121123211
37103 1124234431	37135 3324231311	37167 1343422321	37199 1322421121	37231 3331233111	37263 1311242311
37104 1324324211	37136 1312312211	37168 2231212431	37200 1321313221	37232 3123124331	37264 1124423321
37105 3112332231	37137 3343221131	37169 1124434231	37201 1122133431	37233 3311343421	37265 3133232211
37106 3124223431	37138 1122422111	37170 2243323321	37202 2231221231	37234 3313213221	37266 1343243311
37107 3313444331	37139 3123233121	37171 2244321131	37203 1343113331	37235 1322233311	37267 3313423231
37108 3134422211	37140 2221321211	37172 1331212431	37204 1121134331	37236 1331331121	37268 2233321311



**Free freight!!
No middle man!!**

[Click here for more information](#)



1998 Subaru Forester

30001-37850 - Part 3

37269 2212433231	37302 3342313321	37335 2232312231	37368 3324434211	37401 2221312431	37434 1131321221
37270 1124334311	37303 3331232431	37336 3342223121	37369 2213322121	37402 1134211321	37435 1344334331
37271 3124213221	37304 1342124431	37337 1344224311	37370 1334321321	37403 2234421311	37436 3313211221
37272 2223443311	37305 2231122431	37338 1342432431	37371 2233442221	37404 2232331221	37437 2243242211
37273 3332243311	37306 1131243231	37339 1334431321	37372 3344432121	37405 1132124421	37438 3123123431
37274 2231232231	37307 1344223431	37340 1122124431	37373 3132434311	37406 1321331221	37439 1334324331
37275 3344233421	37308 3112344311	31341 1322422331	37374 3322423121	37407 3324343111	37440 3131234321
37276 1122424331	37309 3344422421	37342 1332433211	37375 1122113231	37408 1311224421	37441 1333123421
37277 2231244311	37310 2211222131	37343 3113422311	37376 2232443221	37409 2211233131	37442 2224424331
37278 1312334231	37311 3332443421	37344 3342113431	37377 3121322311	37410 2213124231	37443 3322423431
37279 3312311221	37312 1324221211	37345 3113242331	37378 2244422111	37411 2223344221	37444 1312333111
37280 1343212331	37313 3332113311	37346 3311132421	37379 1312243111	37412 1342443231	37445 1121123431
37281 2213243431	37314 2212134231	37347 1323244231	37380 1333442311	37413 3343421131	37446 1321112321
37282 2231121221	37315 3132133111	37348 3124243211	37381 1123113221	37414 3124323421	37447 2212334321
37283 3342342431	37316 2243134431	37349 3113311231	37382 2243423131	37415 1323243421	37448 3113231221
37284 2244243231	37317 1334231211	37350 3312423111	37383 1333423231	37416 1124213221	37449 3322132311
37285 1321312231	37318 2243343321	37351 3344212221	37384 1313244221	37417 2233121131	37450 1113334221
37286 3121324421	37319 2232231211	37352 3134234221	37385 3334433211	37418 1133324321	37451 3322233311
37287 1331342121	37320 3131133321	37353 3344231311	37386 2233131231	37419 1324243321	37452 3112432131
37288 1113342431	37321 3124221121	37354 1312433121	37387 1334431121	37420 1133312311	37453 3312432331
37289 3121134431	37322 3334211231	37355 1323442431	37388 3123421331	37421 1313423431	37454 2211324321
37290 3132442431	37323 2212132121	37356 1342422421	37389 1321323121	37422 1321112231	37455 2232444231
37291 1333211311	37324 1313223231	37357 2244323111	37390 1312221331	37423 1124223121	37456 2244422421
37292 3313321131	37325 3321223421	37358 2233223431	37391 3321124221	37424 1332133131	37457 1123321211
37293 1133213311	37326 1311332131	37359 2211331321	37392 2211313321	37425 3112342311	37458 1131332311
37294 1133124231	37327 1123442231	37360 1123313421	37393 1334243131	37426 3312233211	37459 1113344231
37295 1324334311	37328 2234434421	37361 3131122231	37394 2224423121	37427 2232444321	37460 2223123211
37296 3342342121	37329 1113321311	37362 3312133131	37395 1342243321	37428 1123332431	37461 2243123121
37297 1132233431	37330 1121323121	37363 2221312221	37396 2233223221	37429 3344221231	37462 1124223231
37298 3323443421	37331 3111233131	37364 1124344321	37397 3312321321	37430 3123221311	37463 2233212231
37299 3321334211	37332 2212342311	37365 3342432211	37398 3344243211	37431 2231244331	37464 1332443221
37300 3121342111	37333 3112443311	37366 2244322211	37399 2243431231	37432 3122131121	37465 1124431311
37301 1331221211	37334 3322443321	37367 1124221231	37400 2233444331	37433 3322432211	37466 1321123121



SRI and Tech Train Productions are the automotive specialists - your best source for automotive tools, manuals, and videos.

[Click here for more information](#)



The
world's
largest
producer of
automotive
locks and
keys.

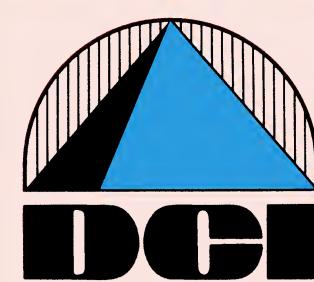
[Click here for more information](#)

37467	3123342131	37544	1113234231	37621	1331243121
37468	1342223321	37545	3313222131	37622	3311234321
37469	1123432421	37546	3124421121	37623	3312124331
37470	1333213221	37547	2244324211	37624	1324342231
37471	1132132431	37548	1331322431	37625	1322211311
37472	3121321231	37549	1321132321	37626	3322123111
37473	1323224211	37550	1121344311	37627	1324443321
37474	3124423321	37551	2224431221	37628	1332332321
37475	1112212331	37552	1122431311	37629	2221342331
37476	3132211231	37553	1324233111	37630	1343321121
37477	3312243111	37554	1324433421	37631	3321233231
37478	3123321121	37555	1124433221	37632	2224342121
37479	3121124311	37556	1324323221	37633	3112322421
37480	3133442221	37557	1323124331	37634	1333243121
37481	1322431311	37558	3331231131	37635	2212234311
37482	2213344231	37559	3344211221	37636	1134421331
37483	1133324431	37560	1133233421	37637	3121342131
37484	3324332111	37561	1321343211	37638	1323311311
37485	1331123421	37562	3232313421	37639	3344312421
37486	3344433311	37563	3111231331	37640	1332334431
37487	1324432321	37564	3312112321	37641	3342343111
37488	1112334211	37565	3131442421	37642	1312433431
37489	3131222311	37566	1122432321	37643	1132442431
37490	1313312221	37567	1333221321	37644	2242312311
37491	3344224421	37568	3342242131	37645	1112443421
37492	1342112221	37569	1312434421	37646	3132243311
37493	1333221121	37570	2244233131	37647	2224443321
37494	1334223331	37571	3313323421	37648	3133442421
37495	2231232211	37572	3131231131	37649	2242432211
37496	3343121121	37573	3112424321	37650	1334432311
37497	1331131231	37574	3324432321	37651	3123443311
37498	1132421131	37575	3132233211	37652	3343223421
37499	2231122211	37576	3343421311	37653	2231134311
37500	1122432431	37577	2244223311	37654	3123113421
37501	3131221321	37578	3342223431	37655	3123421221
37502	3133123421	37579	2223342111	37656	2232434221
37503	1124332111	37580	1343421311	37657	3134233121
37504	1123123231	37581	1312243311	37658	1342312421
37505	2223122311	37582	3112334231	37659	3134423131
37506	2223133111	37583	2212113421	37660	1323442231
37507	1121334431	37584	3323221311	37661	3122111231
37508	1134331221	37585	1332321121	37662	1313243431
37509	1313442221	37586	3133133211	37663	2232243421
37510	1121124221	37587	1113431221	37664	3134422121
37511	2231244221	37588	1122344321	37665	3123211231
37512	3134243221	37589	3313242111	37666	3134433431
37513	1324434231	37590	3132431121	37667	3321112321
37514	2242332111	37591	3322342211	37668	3123424211
37515	1131324321	37592	3122234231	37669	3312342131
37516	1133344321	37593	2213332421	37670	1342432121
37517	3112422321	37594	1332432131	37671	1122244331
37518	2224422111	37595	3311243321	37672	1334244211
37519	1313442131	37596	3113423211	37673	1333242111
37520	1332424321	37597	1123423221	37674	1323112431
37521	1332322331	37598	3342231331	37675	2242113431
37522	3344421321	37599	3134233431	37676	1311334421
37523	3134233231	37600	1112421331	37677	3132131131
37524	3342123331	37601	2244423321	37678	1132221331
37525	3344221121	37602	3324321331	37679	3131124231
37526	1324343111	37603	3332442321	37680	1342123131
37527	2231342431	37604	1311332331	37681	2231342211
37528	3324432121	37605	1134223111	37682	3123433121
37529	3334234221	37606	1123243311	37683	1324342211
37530	2244312221	37607	3342133321	37684	3113211331
37531	2223112211	37608	3344433131	37685	3134242231
37532	3313112421	37609	1112334321	37686	2212133421
37533	1112342131	37610	1342344321	37687	3134421331
37534	3323342131	37611	3121331131	37688	1332233211
37535	3122121331	37612	1343124221	37689	1322432321
37536	3134434331	37613	3311221321	37690	3313443431
37537	1133434431	37614	1112422431	37691	1131234431
37538	2223323121	37615	3123231231	37692	1343244211
37539	3124311211	37616	3312244431	37693	3124231311
37540	3113224331	37617	1313424331	37694	3312333111
37541	3323342311	37618	3133224421	37695	1313321221
37542	2213132131	37619	1342211221	37696	1322123111
37543	1343122421	37620	3322231131	37697	3132113311



37698 1322243431	37737 2243122331	37776 1324333211	37815 1131123331
37699 2242433131	37738 3313221231	37777 3322134311	37816 3321132231
37700 3344312331	37739 3123231211	37778 3344222111	37817 1122433221
37701 1133432431	37740 1134442211	37779 1344213311	37818 2232331311
37702 3124311321	37741 3313224421	37780 1344221211	37819 2234231321
37703 1132342221	37742 1344221121	37781 3312112431	37820 3331244421
37704 2232243311	37743 2231223211	37782 1343344221	37821 1132212331
37705 1332232111	37744 2213423211	37783 3132444231	37822 1343211321
37706 1343112211	37745 1331213421	37784 3311334421	37823 2211234231
37707 2211231221	37746 2213212211	37785 1311242331	37824 3334242211
37708 2221132321	37747 2234342331	37786 2221332211	37825 2231132331
37709 3133243121	37748 3343224211	37787 2213234211	37826 3312324311
37710 1323422211	37749 1334232311	37788 1112322131	37827 2243322311
37711 1333244311	37750 2233321131	37789 3323221331	37828 1122422331
37712 1112242231	37751 1113342121	37790 3132132211	37829 2233424421
37713 2221311331	37752 2242333121	37791 3124433111	37830 2221133221
37714 3124221321	37753 2212211231	37792 2243123211	37831 2232243131
37715 1323243221	37754 3313442131	37793 2232342421	37832 2221343321
37716 1134434421	37755 1131223231	37794 1331244421	37833 2223443421
37717 2221333221	37756 3134232131	37795 1113244221	37834 3113211221
37718 3313422131	37757 3344322121	37796 1122443431	37835 1312231211
37719 1321342221	37758 1332133421	37797 3134443221	37836 2221123431
37720 3112331221	37759 3323244211	37798 1334432421	37837 3311224421
37721 1333121131	37760 2231112421	37799 3342212211	37838 2243223421
37722 1331243211	37761 3321332431	37800 1311244311	37839 2232131221
37723 2213224311	37762 3123244211	37801 1344323311	37840 2242332311
37724 1124332421	37763 1133222331	37802 3123423221	37841 2213434211
37725 3132221331	37764 1332131331	37803 1322332331	37842 3132432311
37726 1312243131	37765 2211322121	37804 1321332121	37843 1332234221
37727 3342244221	37766 3313424311	37805 2213234431	37844 3313424331
37728 3342132131	37767 3111332421	37806 2244324231	37845 2213224331
37729 3121122131	37768 2213324231	37807 2223432421	37846 2224421231
37730 2242131121	37769 1323444321	37808 3334242231	37847 3124434231
37731 3344211331	37770 3112213431	37809 1113323311	37848 3131124431
37732 3133424221	37771 3343321231	37810 1112242431	37849 2211324231
37733 3321332231	37772 3342242331	37811 3121331221	37850 1332223111
37734 3344232211	37773 2242313321	37812 1343321231	
37735 1131331321	37774 3121244231	37813 1123221311	
37736 3324331231	37775 3343423221	37814 2233242111	

TNL



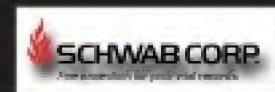
We have
it all.

Quality,
Value,
& Service.

**ASP - Your Auto Service
Center for the World**

[Click here for more information](#)

[Click here for more information](#)



TEST DRIVE!

If you're one who likes rapid growth, change and cutting edge technology, the locksmith trade is not the place to be. Unlike the electronics industry, this industry grows and changes at a snail's pace. Seldom is there a great breakthrough in products or tools, and when there is, it's big news. I came across a tool recently that just happens to be one of those rare glimmers of light. It's not the reinvention of an old product, but an invention unto its own and it's called the Lever Neutralizer manufactured by Singertech.

THE PRODUCT: Developed by a frustrated locksmith looking for an easier way to perform a common task, the Lever Neutralizer was designed and developed to circumvent a number of lever locks when no keys are available. The tool works quickly and effectively every time and it's almost effortless.

This is one of those tools that when you see it work, you knock yourself in the head and say, "Why didn't I think of that?" The Lever Neutralizer consists of two parts, the retainer press (LNRP-1) which looks like a big horseshoe and the puller (LNP-1). The Lever Neutralizer works by forcing the retainer in that secures the lever handle to the chassis or hub. Once the retainer is depressed, the lever can be removed to access the cylinder. When the task is performed, there is little damage to the retainer and the lever can be reused and securely fastened to the chassis. There are no parts that need to be replaced when using the tool.

PRODUCT APPLICATION: To use the Lever Neutralizer, simply clamp the tool around the base of the lever, positioning a pin protruding from the tool on the lock retaining pin. Once in position, install the Puller on the lever and tighten until the lever is free from

the chassis. Once removed you have access to the cylinder to service, replace, rekey, or simply to bypass the lock.

This is a great tool especially in those situations where there may be high-security locks present and no key available. It is also good for those whose picking and impressioning skills may need a little polishing. It will instill a sense of confidence knowing that no matter what the circumstances, you know you can remove the lever and access the lock cylinder.

CONSTRUCTION: The Lever Neutralizer comes in a padded carrying case and the construction is excellent, in fact, it may even be a little overkill. It is precision machined from solid aluminum then anodized blue. The turn buckles, pivots and bushings are all top notch. I can find no fault in the construction. It should outlast most of the people using it.

COMMENTS: Even though it is a well constructed, easy to use tool, there are limitations to its use. First of all, the Lever Neutralizer will not work on all lever locks. It is primarily designed for use on Schlage lever locks. According to Singertech, the tool will pull levers on Schlage Rhodes; Schlage AL Series; Schlage OLY; Schlage S Saturn; Schlage Vandalguard; Sargent; Baldwin; Cal Royal and a few others. The meat and potatoes, however, is Schlage lever designed locks.

You will also encounter a slight problem when servicing levers with a

severe curvature design. The puller of the Lever Neutralizer may not accommodate such designs.

Yes, it would be nice if this was a do-all tool. It would also be nice if I needed to stock only one key blank to fit all the locks in the world. That's not how it is, nor how it will ever be, however. Everything in life has limitations and this tool is no exception. However, for the locks it does work on, it does so beautifully.

PRICE: As with any product that is well constructed and does what it is supposed to do, there is a price tag to go along with it. The price of the Lever Neutralizer is \$275.00. That may seem expensive, but use this tool in a couple of situations where high-security locks are present and no keys, and the sticker shock will soon dissipate.

With the purchase of the tool, Singertech requests that you complete a registration card and return it to Singertech. This is necessary for the purchase of future replacement parts and updated components. The registration card is also requested as a security precaution to deter the product from falling into the wrong hands.

For more information on the Singertech Lever Neutralizer contact:

Singertech
1925 Verne Roberts Circle
Antioch, CA 94509-7910
Phone (925) 777-0401
Fax: (925) 625-6130. **TNL**

IN SUMMARY:

DESCRIPTION: The Lever Neutralizer, by Singertech was designed to circumvent a number of lever locks when no keys are available.

COMMENTS: This is a great tool especially in those situations where there may be high-security locks present and no key is available.

PRICE: \$275.00

TEST DRIVE RESULTS: Everything in life has limitations and this tool is no exception. However, for the locks it does work on, it does so beautifully.